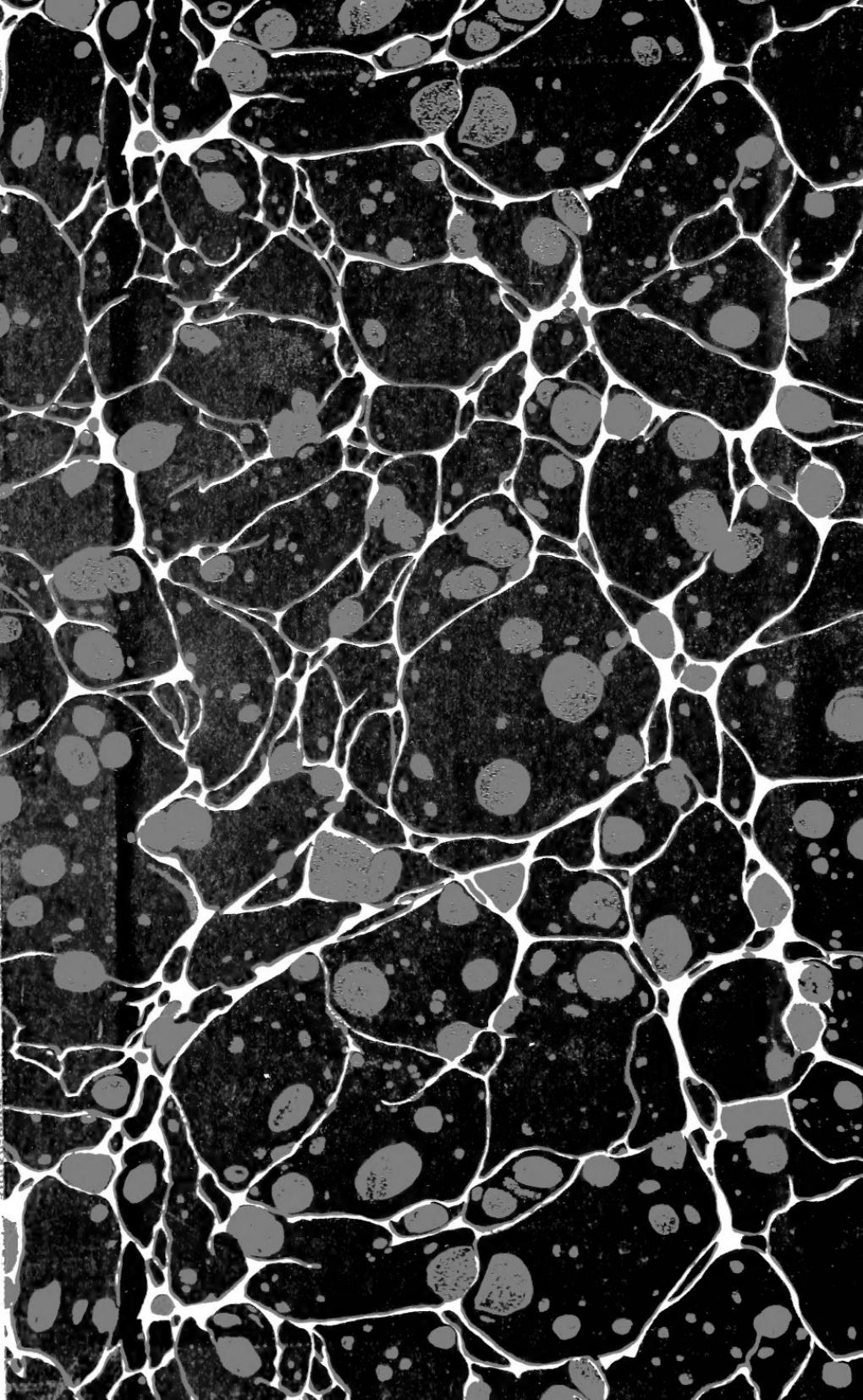
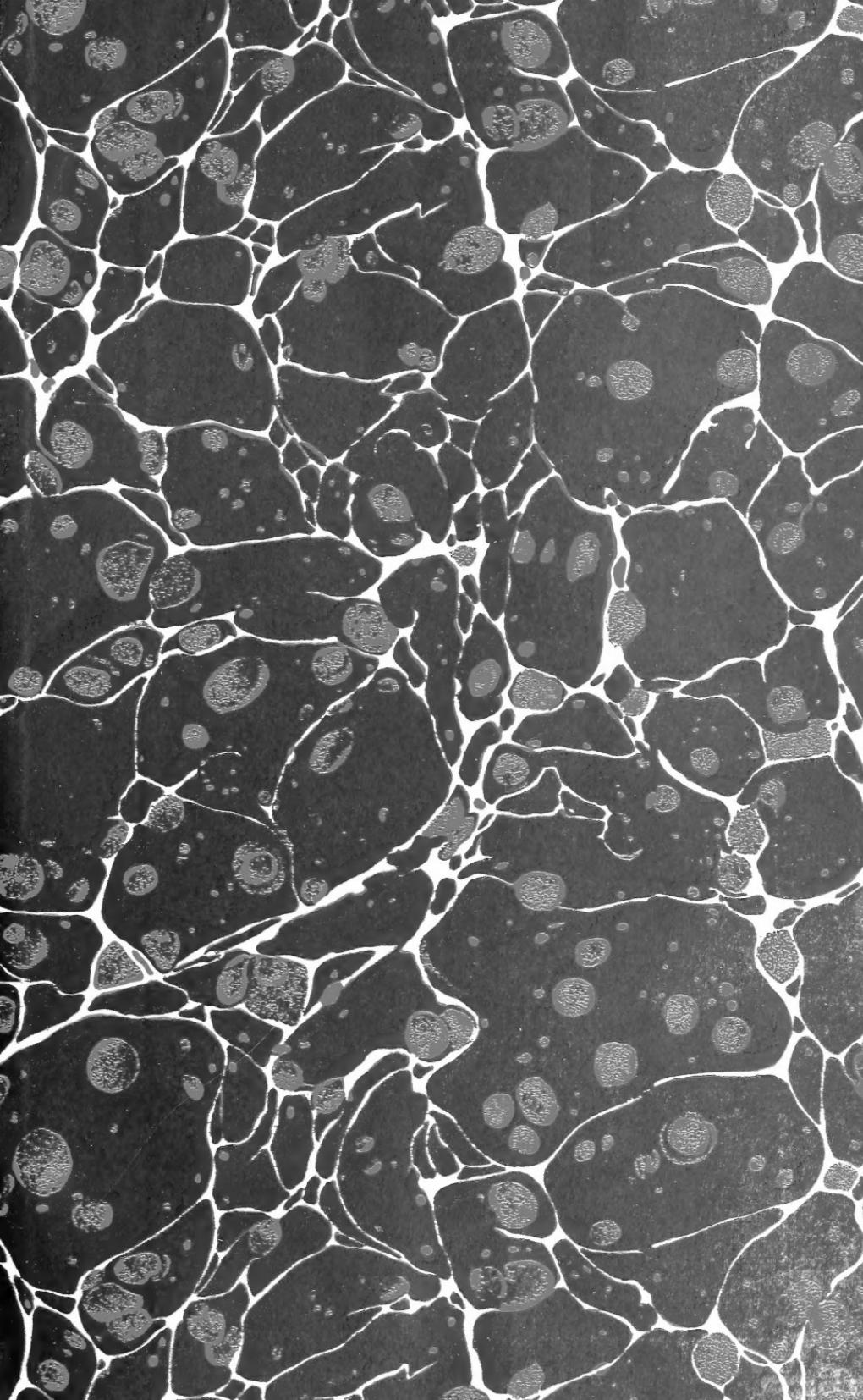


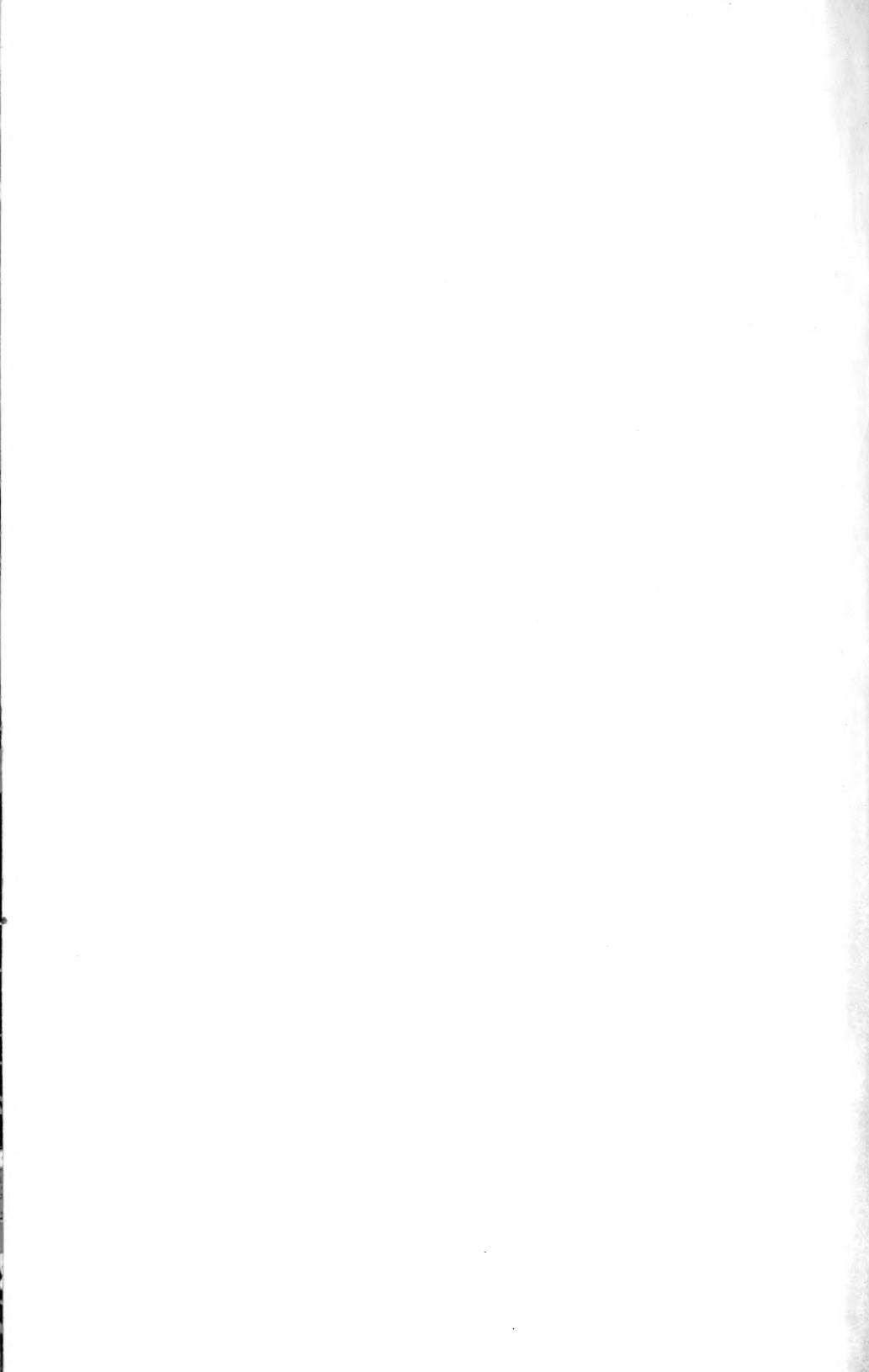


Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

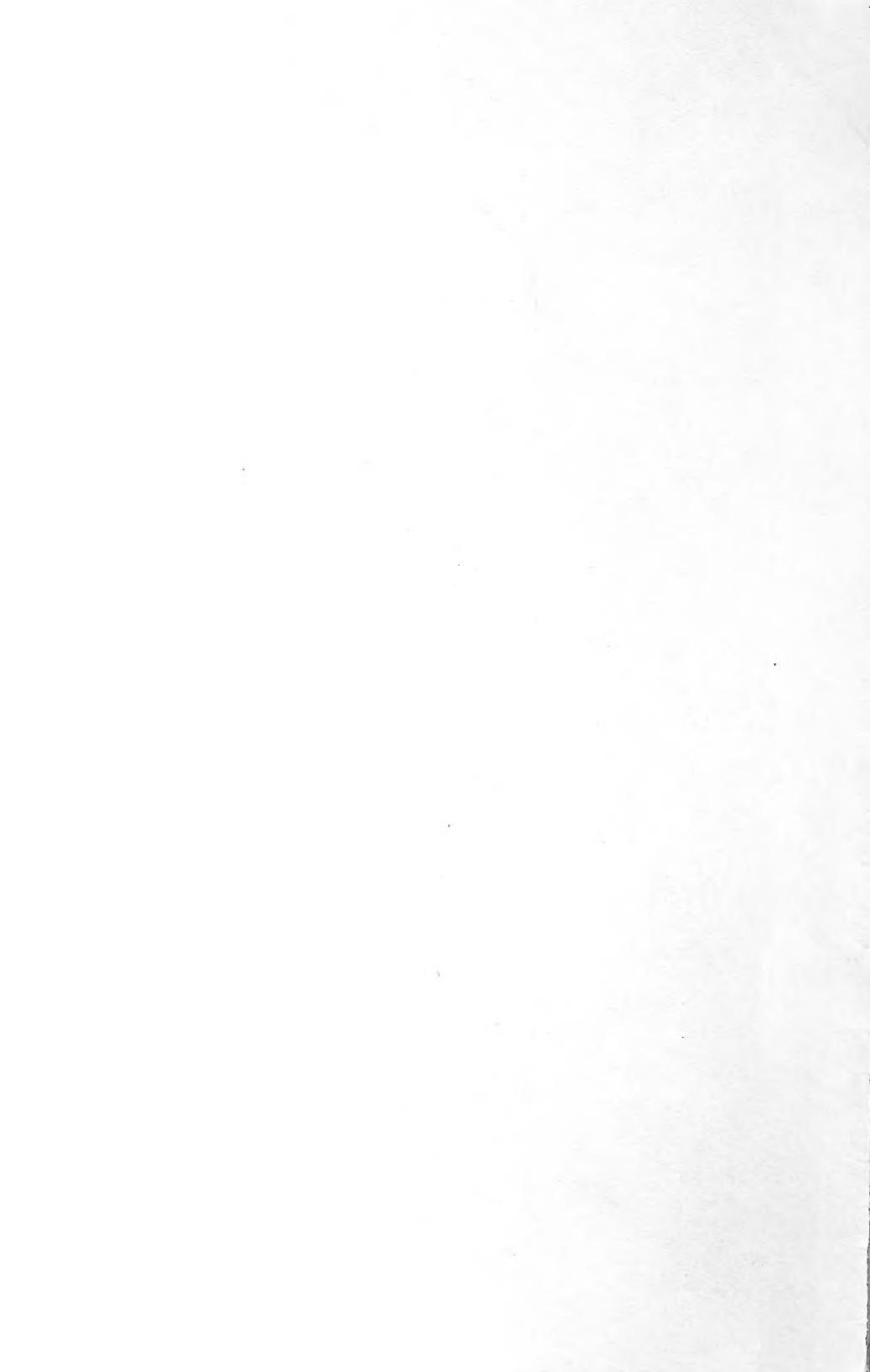


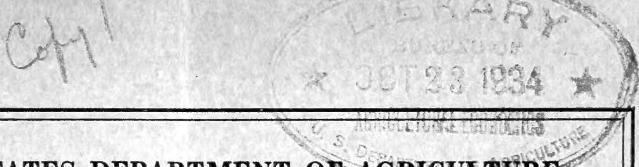




**USDA National Agricultural Library
NAL Building
10301 Baltimore Blvd.
Beltsville, MD 20705-2351**

**USDA National Agricultural Library
NAL Building
10301 Baltimore Blvd.
Beltsville, MD 20705-2351**





UNITED STATES DEPARTMENT OF AGRICULTURE

Miscellaneous Publication No. 198

WASHINGTON, D. C.

ISSUED SEPTEMBER 1934

AN ANNOTATED BIBLIOGRAPHY OF
THE HESSIAN FLY
PHYTOPHAGA DESTRUCTOR (SAY)

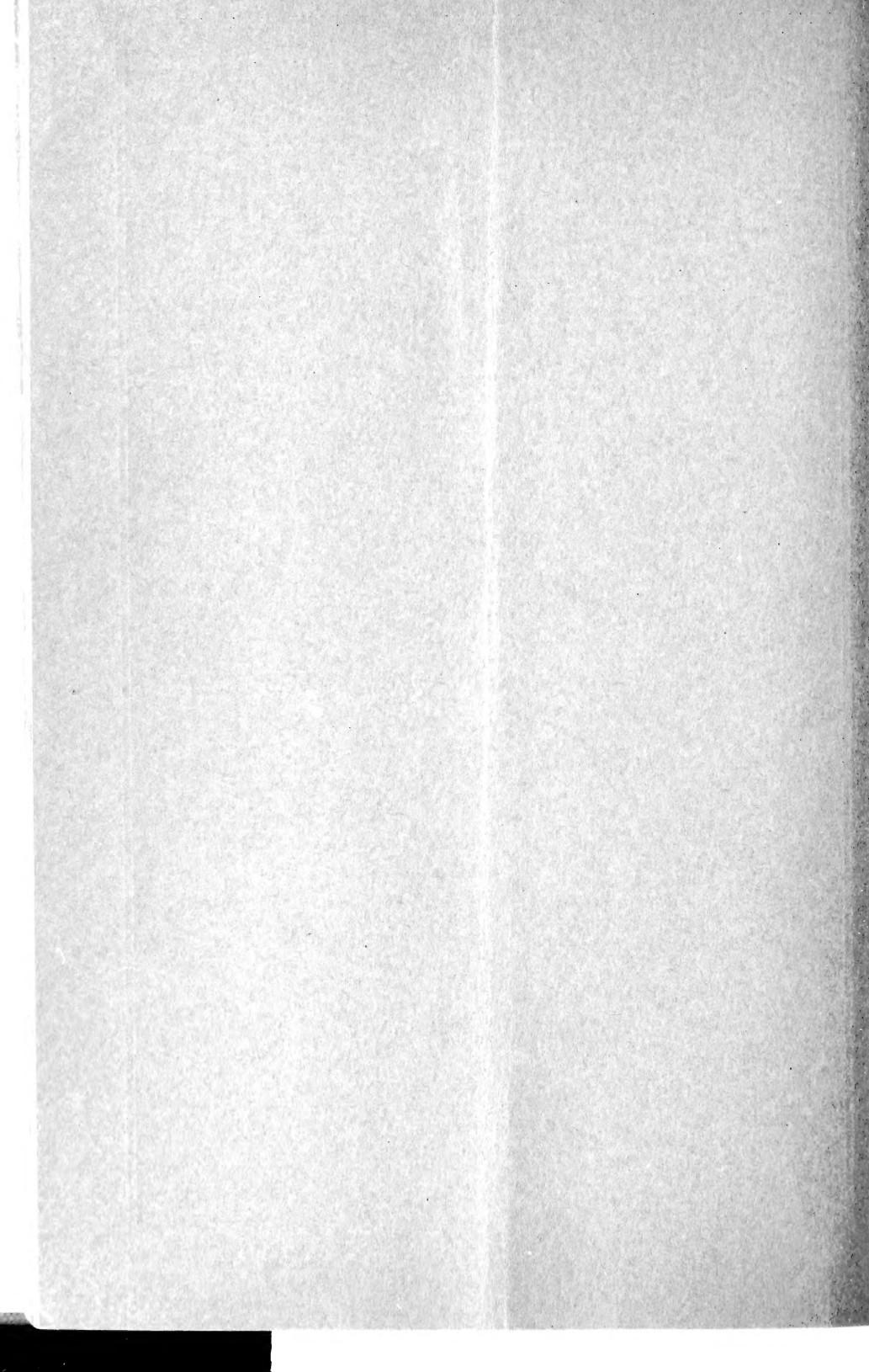
BY

J. S. WADE

Associate Entomologist

Division of Cereal and Forage Insects
Bureau of Entomology and Plant Quarantine





UNITED STATES
DEPARTMENT OF AGRICULTURE

Miscellaneous Publication No. 198

Washington, D.C.

September 1934

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN
FLY, PHYTOPHAGA DESTRUCTOR (SAY)

By J. S. WADE, associate entomologist, Division of Cereal and Forage Insects,
Bureau of Entomology and Plant Quarantine

INTRODUCTION

It is the purpose of this publication to present in a form as condensed as is feasible an annotated bibliography of the hessian fly, *Phytophaga destructor* (Say), with special reference to the literature relating to the insect within its areas of distribution in North America north of Mexico, to June 30, 1933.

The outstanding importance of this insect as a crop pest and the almost incalculable damage it has wrought to American farmers since it gained entry into the United States indicate that it will continue to be a subject of great interest and study, and the value of a bibliography to future investigators is obvious.

This bibliography presents results of some 18 years of collection by the compiler in a number of the larger public libraries in the eastern part of the United States. The assembling and much of the work, however, has been done at Washington where, through the facilities of departmental and other libraries, such studies can be prosecuted with a fullness and completeness not elsewhere possible. In this connection it is a pleasure to acknowledge the many favors extended by officials of all the institutions concerned, as well as by many of the compiler's colleagues, and others who from time to time have aided in making the work more complete.

Since H. A. Hagen, C. V. Riley, and others have discussed quite fully in the references cited herein the probable manner of introduction and the early appearance of the fly in North America, only brief mention is made here of some of the more noteworthy records pertaining to its early history. Considerable confusion regarding the identity of the fly apparently existed during the early decades of the period covered, and this has intensified the difficulty in the selection of references. Some of the earliest of these records, irrespective of correct identity of the pest, were anonymous or obscure contributions to periodicals between 1785 and 1825, notably Pennsylvania Mercury and Universal Advertiser; Annals of Agriculture; American Monthly Magazine and Critical Review; and American Farmer. During this period there were also a few contributions to transactions of learned societies, such as Matthew Carey's American Museum; American Philosophical Society Transactions; New York Society for Promotion

of Agriculture, Arts, and Manufactures; Massachusetts Society for Promotion of Agriculture; and Memoirs of the Philadelphia Agricultural Society. Probably the writers whose observations were most dependable during those years were G. Morgan (1787), P. Muhlenberg (1788), L. Carter (1789), A. Young (1789), Thomas Jefferson (1792), William Kirby (1798, 1800), J. Cooper (1799), C. A. LeSueur (1817), Thomas Say (1817, 1818), J. H. Cocke (1819), Edward Tilghman (1820, 1825), and Kirby and Spence (1822). In the decades subsequent to 1825 the references became sufficiently numerous and varied to render specific mention impracticable, except for certain outstanding articles, as those by E. C. Herrick (1841), Asa Fitch (1846), Kirby and Spence (1846), A. S. Packard (1878, 1880), and S. A. Forbes (1887-90). Other writers who at various dates made noteworthy additions to the history of the investigation included such individuals as C. V. Riley, Cyrus Thomas, F. M. Webster, Lawrence Bruner, C. J. S. Bethune, and Albert Koebele.

Obviously, only a part of the foreign literature could be included, not only because of the mere limitations of space and bulk but also because a complete examination of European literature could best be made by a bibliographer having access to the principal libraries of the Old World, and by one more familiar than the compiler with the various languages in which the facts are recorded. It is equally obvious that not all of the foreign literature could be omitted without seriously detracting from the purpose of the present compilation and lessening its value, particularly in the studies of the distribution of the pest and its strictly historical aspect. Only those foreign references, therefore, which are of particular usefulness to workers in this country have been included.

The scope of this publication does not permit the inclusion of references to literature dealing with the synonymy of hessian-fly parasites, except insofar as such references also contain data on other phases of the hessian-fly investigation, since full treatment of the literature on synonymy of parasites is given by Gahan (429).

Of necessity, a number of articles have been listed which repeat facts already stated. This has been necessary because of other information in the articles, as notices of local outbreaks and data as to the presence of parasites, the spread of the pest in given years, or special control demonstrations. In a number of instances, but not always, inclusive pagination is given instead of the first page or that on which the particular reference appears. This procedure has been deemed most useful for quick reference because of variation in pagination in the different publications in which some of the writings, notably certain State experiment station reports, were issued.

It has not been considered feasible to include the numerous valuable references on the hessian fly contained in the Insect Pest Survey Bulletin, a monthly review of entomological conditions throughout the United States, prepared by the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture with the cooperation of State entomological agencies, as this work is issued only in mimeographed form and is of a character so ephemeral that it probably would not be permanently preserved by a large number of libraries widely distributed throughout the country. However, in order to insure completeness of data, investigators studying the progress of hessian fly investigations in the United States since May 1, 1921, should review the Insect Pest Survey reports.

BIBLIOGRAPHY

ANONYMOUS.

ON THE HESSIAN FLY. Amer. Mus. [Matthew Carey's] 1: 143, 324-326. (1)
1787.

Letter from subscriber, relating to fly spread; discovery on Staten Island about 1779; spread at rate of 20 miles a year, p. 143. Letters from subscribers touching on: Spread of fly at rate of 15 miles annually; brief life history, habits, and control; discovery of fly in 1785; effect on wheat, pp. 324-326.

MODE PROPOSED OF PREVENTING THE DESTRUCTION OF WHEAT BY THE HESSIAN FLY. By a Landholder. Amer. Mus. [Matthew Carey's] 4: 47. 1788. (2)
Expresses alarm at spread of fly; control.

LETTER RELATIVE TO HESSIAN FLY. Pa. Packet and Daily Advertiser 2908: 3. May 29, 1788. (3)

Correspondence from Falls Township, Bucks County, May 20, discussing fly, spread, injury, seasonal history.

ACCOUNT OF THE PROGRESS OF THE HESSIAN FLY. Amer. Mus. [Matthew Carey's] 4: 47. 1788. (4)

Communication from Bucks County, Pa., regarding origin and spread of fly; damage in New Jersey; brief description.

NOTICES FOR A YOUNG FARMER. Amer. Farmer 1: 57, 82, 89. 1819. (5)

Notes on fly, from letters of correspondents; brief review of Say's Some Account of the Insect Known by the Name of the Hessian Fly, and of an Insect That Feeds on It.

[HESSIAN FLY.] Amer. Farmer 1: 172. 1819. (6)

Notes on fly-resistant qualities of Lawler wheat, and of immunity of rye to ravages of fly.

ON THE HESSIAN FLY AND THE PROPER DEPTH OF SOWING. By a Frederick County farmer. Amer. Farmer 2: 135, 167-168. 1820. (7)

Further discussion on grazing for control, with merits of late and early sowing, p. 135; merits of deep and shallow seeding for control; grains favored by fly; and spread of fly by means of volunteer grain, pp. 167-168.

[ON THE HESSIAN FLY.] By a correspondent. Amer. Farmer 2: 200. 1820. (8)
Disagrees with theory that frost kills ova of fly.

ON THE HESSIAN FLY AND THE PROPER DEPTH OF SOWING. By a King William farmer. Amer. Farmer 2: 127-128, 143-144. 1820. (9)

Disagrees with theory of grazing for control and advocates early sowing, pp. 127-128. Further discussion on efficacy of grazing wheat in control of fly, pp. 143-144.

ON THE HESSIAN FLY AND ON THE PROPER DEPTH OF SOWING. By a King William farmer. Amer. Farmer 2: 151. 1820. (10)
Discussion of controversy on control methods.

ANONYMOUS—Continued.

(11) [OBSERVATIONS ON HESSIAN FLY.] By a Lancaster County farmer. Amer. Farmer 1: 382-383. 1820.

Early appearance, spread, and ravages; experiments on fly-proof wheat and methods of control.

(12) EXTRACT OF LETTER FROM PROF. GREEN OF NASSAU HALL, PRINCETON, N.J. Amer. Farmer 4: 183. 1823.

Habits of parasite *Ceraphron*.

(13) ON THE BEST TIME TO SOW WHEAT. EARLY SEEDING PREFERABLE TO LATE. By Clodpole. Amer. Farmer 4: 269. 1822.

Data on planting dates, with conclusions.

(14) HESSIAN FLY. By Clodpole. Amer. Farmer 5: 72. 1823.

Note on outbreak in Delaware.

(15) EDITORIAL CORRESPONDENCE [ON HESSIAN FLY]. Amer. Farmer 5: 111. 1823.

Notes from correspondence on damage in Maryland, Virginia, and North Carolina.

(16) THE HESSIAN FLY. By a farmer of Bucks County. Amer. Farmer 5: 134. 1823.

Observations on life history; recommends use of lime on seed wheat; reports on various experiments.

(17) HESSIAN FLY. By Suffering Agriculturist. Amer. Farmer 5: 72. 1823.

Account of outbreak in Queen Annes County, Md.

(18) HESSIAN FLY, CLOVER, WHEAT, ETC. By a Virginian of Fairfax County. Amer. Farmer 5: 123. 1823.

Gives account of a "wretched harvest"; injury by fly.

(19) [NOTES ON HESSIAN FLY.] Amer. Farmer 6: 3. 1824.

Reports on fly-resistant varieties of wheat.

(20) HESSIAN FLY. Amer. Farmer 7: 71. 1825.

Account of outbreak.

(21) WHITE FLINT WHEAT. Amer. Farmer 7: 80. 1825.

Request by editor for reports on fly-resistant qualities of white flint wheat.

(22) MEMOIR ON THE HESSIAN FLY. Amer. Farmer 7: 153-155. 1825.

Historical and physiological notice of the fly, read by the Agricultural Society of Albemarle, Va., on March 2, 1818.

(23) [WHITE FLINT WHEAT.] Amer. Farmer 7: 175. 1825.

White flint no more fly-resistant than other varieties and does not yield so well.

(24) HESSIAN FLY. Amer. Farmer 7: 227-228. 1825.

Observations on sowing dates.

(25) PROPER TIME FOR SEEDING WHEAT TO PREVENT FLY. By a Frederick County farmer. Amer. Farmer 6: 361-362. 1825.

Comment on letters of Messrs. Birnie and Buel regarding sowing of lime-soaked seed wheat.

- ANONYMOUS—Continued.
- HESSIAN FLY. By a farmer of Bucks County. Amer. Farmer 8: 82. 1826.
On destructive character of fly. (26)
- HESSIAN FLY. Amer. Farmer 8: 60. 1826.
Comments on fly-proof wheat. (27)
- OTHER INSECTS. Amer. Farmer 8: 178. 1826.
Deplores lack of knowledge on fly. (28)
- RARE RIPE WHEAT. By Agricultor. Amer. Farmer 8: 130-131. 1826.
Discussion on early and late sowing, and varieties of wheat to be sown. (29)
- HESSIAN FLY. By Mechanic. Amer. Farmer 8: 282-283. 1826.
Theory on propagation of fly, with brief note on control. (30)
- THE PROSPECT FOR WHEAT. Amer. Farmer 9: 64. 1827.
Occurrence of fly, with note on destruction to wheat. (31)
- HESSIAN FLY AGAIN. Amer. Farmer 12: 79. 1830.
Appearance of fly along James River and on Eastern Shore of Maryland. (32)
- THE CROPS. By Torchlight. Amer. Farmer 12: 94. 1830.
Appearance of fly at Hagerstown and along Eastern Shore of Maryland. (33)
- SIMPLE METHOD OF DESTROYING THE HESSIAN FLY. By Canadian Courier.
Amer. Farmer 12: 347. 1831.
Suggestions on control. (34)
- HESSIAN FLY. By a Genesee farmer. Amer. Farmer 13: 149. 1831.
Note on development of fly and control. (35)
- HESSIAN FLY. By Agricultor. Amer. Farmer 13:169. 1831.
Comments on observations of Genesee farmer on fly; request for futher information. (36)
- THE WHEAT CROP. Amer. Farmer 13: 79. 1831.
Notes from correspondents on appearance of fly in Maryland, Virginia, and North Carolina. (37)
- HESSIAN FLY. Amer. Farmer 13: 403. 1832.
Discussion of habits of fly. (38)
- HESSIAN FLY. By a Talbot farmer. Amer. Farmer 13: 386. 1832.
Advances theory that intense cold does not destroy eggs of insects. (39)
- A PREVENTIVE OF THE WHEAT FLY. By an agriculturist of Maryland.
Farmers' Cabinet 1: 73. 1837.
Description of stages and habits; recommends brine and lime for control. (40)
- HESSIAN FLY. Farmers' Cabinet 1: 185-186. 1837. (Reprinted from
Bucks County Intelligencer.)
Description and life history; control by lime. (41)

ANONYMOUS—Continued.

THE OBSERVER, NO. 5. THE WHEAT FLY. Farmers' Cabinet 1: 289-291. (42)
1837.

Original habitat of fly; description of stages; habits.

THE OBSERVER, NO. 6. THE WHEAT FLY. Farmers' Cabinet 1: 306. (43)
1837.
Classification of *Ceraphron destructor*, brief note on habits.

THE FLY—THE FLY! By Thirty Years a Farmer. Farmers' Cabinet (44)
5: 172. 1840.
Observations and request for information.

THE HESSIAN FLY. By Vir. Farmers' Cabinet 5: 17-20. (45)
1840.
Discussion on sowing dates.

BLIGHT. Farmers' Cabinet 5: 158-159. (46)
1840.
Controversy on control. Is fly the cause or effect of diseased wheat?

HESSIAN FLY. By Vir. Farmers' Cabinet 5: 254-255. (47)
1841.
Further controversy on discoveries.

HESSIAN FLY. Farmers' Cabinet 6: 154. (48)
1841.
Observations on Morris controversy; control.

OBSERVER, NO. 24. "WHO SHALL DECIDE, WHEN DOCTORS DISAGREE?" (49)
Farmers' Cabinet 6: 237-239. 1841.
Discussion on observations of Miss Morris on fly.

BIBLIOGRAPHICAL NOTICES—REPORT ON THE INSECTS OF MASSACHUSETTS, (50)
INJURIOUS TO VEGETATION. Amer. Jour. Sci. and Arts [Silliman's] 42: 380.
1842.
Advance notice of Harris's publication.

THE WEATHER, CROPS, ETC. Amer. Farmer (n.s.) 1: 360-362. (51)
1846.
Report touching on fly damage, compiled from paragraphs from various
papers.

THE WHEAT CROP AND THE FLY. By New Castle Hundred. Amer. Farmer (52)
(n.s.) 1: 362. 1846.
Occurrence of fly in Delaware; comment on theory of Miss Morris.

HESSIAN FLY—ITS RAVAGES. By Michigan farmer. Amer. Farmer (53)
(4) 3: 332-333. 1848.
Ravages in Oakland County, Mich.; control.

REPORT FROM [ONONDAGA COUNTY] N.Y. N.Y. State Agr. Soc. Trans. (54)
14: 526. 1854.
Discussion of control.

HESSIAN FLY. Amer. Nat. 2: 163, illus. (55)
1869.
Note on life history and habits in Northern States.

INSECT PESTS ON THE PACIFIC COAST. Amer. Nat. 19: 716. (56)
1885.
Occurrence in four California counties.

ANONYMOUS—Continued.

(57)

THE HESSIAN FLY. London Times 32,176: 3. 1887.

Origin of name; description and life history; importation of American wheat stopped in 1877; damage in America; fly in Russia; description of injuries inflicted on grains; fly less destructive in England than America, owing to robust varieties of English wheat; parasites.

(58)

THE HESSIAN FLY IN PENNSYLVANIA. Country Gent. 63: 546-547. 1898.

Development, parasites, and control.

(59)

HESSIAN FLY. Country Gent. 63: 906. 1898.

Reply to correspondence regarding control; salt valueless in control.

(60)

HESSIAN FLY. Country Gent. 65: 942. 1900.

Reply to inquiry, discussing Loudoun County, Va., conditions.

(61)

FALL TRAPPING THE HESSIAN FLY IN WHEAT. Amer. Agr. 68 (10): 215. 1901.

Discusses letter from correspondent on trap crop for fly.

(62)

HESSIAN FLY—BORERS. Country Gent. 66: 442. 1901.

Injury and control.

(63)

[HESSIAN FLY.] U.S. Dept. Agr. Expt. Sta. Rec. 13: 805. 1902.

Report of injury by fly near Portland, Oreg.

(64)

HESSIAN FLY ATTACKS WHEAT. Calif. Fruit Grower 31: 15. 1905.

Brief general popular account.

(65)

ROTATION. Farmers' Mail and Breeze 45 (29): 2. 1915.

Discussion of rotation on fly injury.

(66)

HESSIAN FLY. Farmers' Mail and Breeze 45 (30): 2. 1915.

Cooperation stressed.

(67)

GUARD AGAINST THE FLY. Farmers' Mail and Breeze 45 (36): 18. 1915.

Kansas map showing fly-free dates with brief discussion.

(68)

HESSIAN FLY. Farmers' Mail and Breeze 45 (37): 2. 1915.

Note on cooperation in fly control.

(69)

HOLMAS HAS THE "PEP." Farmers' Mail and Breeze 45 (41): 2. 1915.

Presence of fly in Cowley County, Kans.; control.

(70)

IDEAL HESSIAN FLY WEATHER. Farmers' Mail and Breeze, 45 (45): 30. 1915.

Discussion of local reports on relation of weather to fly injury.

(71)

BEATING THE HESSIAN FLY. Farm Engin. 4 (2): 35. 1916.

Control by late sowing; by fertilizing.

(72)

WHEAT SEEMS TO BE ORDINARY. Farmers' Mail and Breeze 46 (23): 20. 1916.

Injury by fly reported.

ANONYMOUS—Continued.

(73)
WHEAT IS HOLDING ITS OWN. Farmers' Mail and Breeze 46 (24): 20. 1916.
Considerable injury by fly reported in various parts of Kansas.

(74)
HE'S IN THE STUBBLE! Power Farming 25 (9): 14, 48, illus. 1916.
Description of stages; control.

(75)
SPRING ACTIVITIES OF THE HESSIAN FLY. Wallaces' Farmer 41: 486. 1916.
Stages of development.

(76)
HESSIAN FLY. Wallaces' Farmer 41: 972, illus. 1916.
Recommends examination of straw to determine degree of infestation;
control.

(77)
WHAT K. S. A. C. IS DOING. Farmers' Mail and Breeze 47 (13): 27. 1917.
Research on fly.

(78)
DON'T SOW WHEAT TOO EARLY. Farmers' Mail and Breeze 48 (35): 17. 1918.
Discusses injury by fly and other insects to early sown wheat; safe seed-
ing dates for Hays, Kans., area.

(79)
HESSIAN FLY AND HASTY FARMER. Farmers' Mail and Breeze 49 (40): 34.
1919.
Report on fly conferences in Kansas in 1919; control.

(80)
FARMING IN WESTERN KANSAS. Farmer's Mail and Breeze 58 (28): 14. 1920.
Fly injury to western edge of Trego County, Kans., in 1920; control.

(81)
HESSIAN FLY DAMAGES WHEAT. Kans. Farmer and Mail and Breeze 58 (30):
15. 1920.
Fifty percent injury by fly in Rush County in 1920; control.

(82)
HESSIAN FLY CAMPAIGN IN ELLIS [COUNTY, KANSAS.] Kans. Farmer and
Mail and Breeze, 58 (32): 28. 1920.
News item regarding fly campaign July 19–24 in Ellis County, Kans.;
control.

(83)
HESSIAN FLY LOSSES ARE PREVENTABLE; ANOTHER OUTBREAK OF PEST
IMMINENT. Dixie Miller 53 (4): 43–44. 1920.
Popular discussion compiled from United States Department of Agriculture
sources; control; seeding dates, Michigan to Georgia.

(84)
HESSIAN FLY LOSSES TO WHEAT ARE PREVENTABLE. N.J. Agr. Expt. Sta.
Bul. 39: 810–811. 1920.
Average annual damage to wheat; preventives.

(85)
PLOW THE UNSEEDED WHEAT STUBBLE UNDER. Farmer's Advocate and
Home Mag. 55: 1417. 1920.
Control.

(86)
TO DODGE THE HESSIAN FLY AND INCREASE THE YIELD OF WHEAT. Natl.
Fert. Assoc., Soil Impr. Com. Bull. 4 (10): 1, 4, illus. 1920.
Safe seeding dates; cost of damage; control.

(87)
AVOIDING HESSIAN FLY DAMAGE. Wallaces' Farmer 45: 2192, illus. 1920.
Description; appearance of fly-infested wheat; control; map of fly-free
dates for Middle West.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 9

- ANONYMOUS—Continued.** (88)
HESSIAN FLY OUTBREAK. Ind. Farmer's Guide 33 (14): 487. 1921.
 Brief suggestions for prevention.
- FIGHT THE HESSIAN FLY.** Kans. Farmer 60 (31): 16. 1922. (89)
 Control by plowing under stubble and disking; safe seeding dates in Kansas.
- LOSS OF FIFTY MILLION DOLLARS, BUT THE HESSIAN FLY CAN BE CONTROLLED BY GOOD METHODS OF SEED-BED PREPARATION AND LATE PLANTING.** Kans. Farmer 60 (37): 14, illus. 1922. (90)
 Popular discussion of control of fly in Kansas; map of Kansas showing fly-free dates.
- REPORTS ON THE STATE OF CROPS IN EACH PROVINCE OF SPAIN ON THE 20TH OF MAY 1922.** Bol. Agr. Téc y Econ. [Spain] 14 (161): 431-447. 1922. All early sown wheat in Huesca injured by fly. (91)
- MORE HESSIAN FLY DAMAGE?** Kans. Farmer 61 (44): 3. 1923. (92)
 Interview with G. D. Crampton of Tescott, Kans.; damage by fly expected.
- HESSIAN FLY MENACE THREATENED.** Kans. Farmer 61 (41): 23. 1923. (93)
 Interview with E. G. Kelly, extension entomologist, Kansas; general infestation of fly expected; control.
- ROSETTE DISEASE AND HESSIAN FLY ATTACKS ON WHEAT COMPARED.** Amer. Elevator and Grain Trade 41: 680. 1923. (94)
 Comparison of injury caused by fly and rosette disease; mention made of new United States Department of Agriculture bulletin on this subject.
- HOW SAFE SOWING BALKS THE HESSIAN FLY.** Ohio Ext. Serv. News 9 (1-2): 16, illus. 1923. (95)
 Brief discussion of cut showing injury and map showing infestation in Ohio in 1922.
- KNOCKING OUT THE HESSIAN FLY.** Wallaces' Farmer 48: 1248, illus. 1923. (96)
 Oviposition in early fall; development; control; map of fly-free dates for Iowa and surrounding States.
- HESSIAN FLY CONTROL.** Kans. Farmer 62 (31): 16. 1924. (97)
 Six important control measures for fly enumerated.
- WHY HESSIAN FLY DAMAGE?** Kans. Farmer 63 (24): 7. 1925. (98)
 Much injury in Kansas where fly-free sowing date was disregarded.
- FLY DAMAGES WHEAT.** Kans. Farmer 63 (25): 7. 1925. (99)
 Much injury in Kansas by fly; recommendations of college experts not followed.
- MORE FLY DAMAGE IN '26.** Kans. Farmer 63 (29): 7. 1925. (100)
 Brief discussion of fly control.
- HAD NERVE TO WAIT.** Kans. Farmer 63 (46): 7. 1925. (101)
 Fly control in Marion County, Kans., by sowing wheat after October 6.
- HERE'S HOW W. E. BERG OUTWITS THE HESSIAN FLY.** Kans. Farmer 63 (40): 7. 1925. (102)
 Interview with Pratt County representative in Kansas Legislature regarding methods of fly control.

ANONYMOUS—Continued.

'RAS WITH THE HESSIAN FLY. Kans. Farmer 64 (24): 22, 24. 1926. (103)

Injury by fly in southern Kansas; life history; control; time of planting.

STARVE THE HESSIAN FLY. Kans. Farmer 66 (29): 21. 1928. (104)

Quotes H. M. Bainer, director, Southwestern Wheat Improvement Association, on status of fly in Kansas; control by destruction of volunteer wheat, by late sowing, and by rotation of crops.

HESSIAN FLIES ON JOB. Kans. Farmer 67 (1): 20. 1929. (105)

Report on results of sowing wheat on different dates in Harvey County, Kans.

WILL THE WHEAT ACREAGE BE INCREASED SOMEWHAT THIS YEAR IN KANSAS? Kansas Farmer 67 (38): 24. 1929.

Quotes Dr. W. H. Larrimer in résumé of fly injury for past 10 years in United States; no general outbreak.

[HESSIAN FLY.] Nebr. Univ. Bull. ser. 36 (6): 12. 1930. (107)

Brief discussion of field studies.

HESSIAN FLY ABUNDANT. Ohio Agr. Expt. Sta. Weekly Press Bull. 17-28: 1. 1932.

Brief résumé of Ohio conditions to date.

ADAMS, W. J.

WHEAT OR CLOVER, WHICH? Farmer's Advocate and Home Mag. 55: 1413. 1920.

Observations on control of fly; spraying suggested.

AINSLIE, C. N.

TETRASTICHUS AS A PARASITE ON POLYGNOTUS. Ent. Soc. Wash. Proc. 10: 14-16, illus. 1908.

Detailed account of example of hyperparasitism.

AKERLY, S.

AN ACCOUNT OF THE WHEAT INSECT OF AMERICA, OR THE TIPULA VAGINALIS TRITICI, COMMONLY CALLED THE HESSIAN FLY. Amer. Monthly Mag. and Critical Rev. 1: 275-279, illus. 1817.

Observations on life history, host plants, and control.

ALDRICH, J. M.

EUROPEAN FRIT FLY IN NORTH AMERICA. Jour. Agr. Research 18: 451-473, illus. 1920.

Similarity of attack and control of *Oscinis frit* and *Mayetiola destructor* on wheat, p. 451.

ARMSTRONG, W. A. See GREEN, G. A.

ASHMEAD, W. H.

DESCRIPTIONS OF THIRTEEN NEW PARASITIC HYMENOPTERA, BRED BY PROF. F. M. WEBSTER. Jour. Cincinnati Soc. Nat. Hist. 17: 47-48. 1894.

Brief description.

NOTES ON SOME EUROPEAN HYMENOPTEROUS PARASITES OF THE HESSIAN FLY, CECIDOMYIA DESTRUCTOR SAY, AND OTHER INSECTS; BRED BY DR. PAUL MARCHAL, THE FRENCH GOVERNMENT ENTOMOLOGIST. Psyche 8: 135-138. 1897.

Description of *Boeotomus (Micromelus) coxalis*, winged form and subapterous form, and *Holcaeus cecidomyiae*.

ATKINSON, J.

WINTER WHEAT. Iowa Agr. Expt. Sta. Bull. 51: 24-30. 1900. (115)

Notes on injury by fly; control by plowing.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 11

- BACON, W. D. (116)
 HESSIAN FLY. Mem. Phila. Soc. Prom. Agr. 4: 219. 1817.
 Letter on habits of fly.
-
- SEASON OF 1816. Mem. Phila. Soc. Prom. Agr. 4: 219. 1818. (117)
 Advice on control of fly.
-
- BAINER, H. M. (118)
 FOR HIGHER WHEAT YIELDS. Kans. Farmer 67 (28): 10. 1929.
 Early seed-bed preparation in relation to fly control.
-
- AWAY WITH HESSIAN FLY. Kans. Farmer 67 (31): 10. 1929. (119)
 Brief discussion of fly control throughout Wheat Belt.
-
- BAIRD, H. C. (120)
 THE FORD COUNTY KANSAS WHEAT PROGRAM. Kans. State Bd. Agr. Bien.
 Rpt. (1927-28) 29: 202-208. 1929.
 Discussion of county extension project on fly since 1925.
-
- BALDWIN, C. H. (121)
 MISCELLANEOUS FIELD CROP AND GARDEN PESTS.—HESSIAN FLY, MAYETIOLA
 DESTRUCTATOR SAY. Ind. State Ent. Ann. Rpt. 5: 142-144, illus. 1912.
 Description of stages; remedies.
-
- DIPTERA: HESSIAN FLY, MAYETIOLA DESTRUCTATOR SAY. Ind. State Ent. Ann. (122)
 Rpt. 7: 55-56, illus. 1914.
 Outbreak in northern Indiana.
-
- BANKS, J. (123)
 FURTHER ACCOUNT OF THE HESSIAN FLY, ... AND, A STATEMENT OF THE
 PRINTED ACCOUNTS PUBLISHED IN AMERICA, JULY 8TH, 1788. Ann. Agr.
 Bury St. Edmund's 11: 422-427. 1789.
 British account of hessian fly. (Embodyed in Young's Proceedings of His
 Majesty's Most Honourable Privy Council, etc., pp. 406-613.)
-
- BANKS, N. (124)
 DIRECTIONS FOR COLLECTING AND PRESERVING INSECTS. U.S. Natl. Mus.
 Bull. 67: 28, illus. 1909.
 Brief reference to hessian fly; enlarged illustrations.
-
- BARBOUR, J. (125)
 CULTIVATION OF WHEAT. Amer. Farmer 1: 300-301. 1819.
 Early appearance of fly in 1798; data on experiments on different varieties
 of seed wheat in control of fly.
-
- [BARE, O. S.] (126)
 [HESSIAN FLY.] Nebr. Univ. News and Feature Serv. 18 (68): 2. 1930.
 Brief discussion of observation station; status of pest; publicity plans.
-
- BARTLETT, M. (127)
 HESSIAN FLY. Farmers' Inst., Pure Bred Cattle Breeders', and Sheep and
 Swine Breeders' Assoc., and Manitoba Dairy Assoc. Rpt. 1899: 41-43.
 1899.
 Résumé of infestation in Manitoba; life history; control in Manitoba.
-
- BARTON, B. S. See JEFFERSON, T.
-
- BASTIN, H. (128)
 INSECTS, THEIR LIFE-HISTORIES AND HABITS. 349 pp., illus. New York.
 1913.
 Note on conditions following attack by fly, p. 231.
-
- BATEHAM, M. B. See FITCH, A.
-
- BAYFORD, E. G. (129)
 HESSIAN FLY PREVIOUSLY IN GREAT BRITAIN. Entomologist 20: 327. 1887.
 Note on early introduction into British Isles.

- BAYNES, R. E. (130)
 DIPTERA—TWO-WINGED FLIES. Ent. Soc. Ontario, Ann. Rpt. 1882: 47, illus. 1883.
 Comparison with *Cecidomyia tritici*.
- BECKHOFF, A. H. (131)
 HESSIAN FLY, WHAT IT IS AND HOW TO CONTROL IT. Nebr. Coop. Ext. Work in Agr. and Home Econ. 4 pp., illus. [1904?].
 Popular résumé; infestation data; control.
- BEESLEY, T. (132)
 HESSIAN FLY. Amer. Farmer 5: 165–166. 1823.
 Observations on life history; advocates fall pasturing of wheat for control.
- BENSON, E. F. (133)
 HESSIAN FLY. Wash. State Dept. Agr. Bien. Rpt. (1916–18) 3: 191. 1920.
 Appearance of fly reported in the State of Washington; destruction in one locality.
- BENTLEY, G. M. (134)
 HESSIAN FLY. Tenn. State Bd. Ent. Rpt. 1910: 39–44, illus. 1911.
 Outbreak in Tennessee; introduction of parasites; life history; control.
-
- INSECT NOTES FOR THE YEAR—HESSIAN FLY. Tenn. Dept. Agr. Bien. Rpt. 1909–10: 48–50, illus. 1911. (135)
 Infestation in Tennessee; introduction of parasite (*Polygnotus*) from North Dakota; brief life history; remedies.
-
- REPORT OF THE STATE ENTOMOLOGIST AND PLANT PATHOLOGIST. Tenn. Dept. Agr. Bien. Rpt. 1917–18: 65–66. (136)
 Fly survey; cooperation imperative in protecting wheat, barley and rye; safe dates for sowing.
- BERGEN, G. (137)
 HESSIAN FLY. Cultivator 8: 133. 1841.
 Remarks on early history and habits, with control suggestions.
- BERGER, E. W. See NEWELL, W.
- BERLESE, A. (138)
 ENTOMOPHAGOUS INSECTS AND THEIR PRACTICAL EMPLOYMENT IN AGRICULTURE. Internat'l. Rev. Sci. and Pract. Agr. Monthly Bull. Agr. Intel. Plant Diseases Rome 7 (3): 321–332. 1916.
 Fly parasites.
- BETHUNE, C. J. S. (139)
 INSECTS AFFECTING THE WHEAT CROPS. Ent. Soc. Ontario, Ann. Rpt. 1871: 52–55, illus. 1872.
 Origin in America; life history; natural and artificial remedies.
-
- NOXIOUS INSECTS. Canad. Ent. 5: 140. 1873. (140)
 Fly reported near London, Ont., injurious to spring wheat.
-
- HESSIAN FLY (CECIDOMYIA DESTRUCTOR SAY). Ent. Soc. Ontario, Ann. Rpt. 8: 56–59, illus. 1877. (141)
 Origin and distribution; life history; description; natural and artificial remedies.
-
- ANNUAL ADDRESS OF PRESIDENT [OF ENTOMOLOGICAL SOCIETY OF ONTARIO]. Ent. Soc. Ontario, Ann. Rpt. 21: 5–6. 1891. (142)
 Review of injury in Ontario; control.
-
- THE USE OF ENTOMOLOGY. Ent. Soc. Ontario, Ann. Rpt. (1899) 30: 119. (143)
 1900.
 Discussion of injury in Manitoba.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 13

- BIRKHIMER, E. (144)
[HESSIAN FLY.] Ohio State Bd. Agr. Ann. Rpt. (1853) 8: 194. 1854.
Injury by fly in Perry County, Ohio; control.
- BIRNIE, C., and BUEL, J. (145)
ON THE EFFICACY OF CERTAIN STEEPS, TO PRESERVE WHEAT FROM THE FLY AND SMUT. Amer. Farmer 6: 307. 1824. (Reprinted in New England Farmer 3: 171.)
Describes results of experiments by each in sowing wheat soaked in lime and salt solutions.
- BLANCHARD, R. A. See CARTWRIGHT, W. B.
- BOYD, J. (146)
A HISTORY OF THE PENNSYLVANIA HORTICULTURAL SOCIETY 1827-1927, 509 pp. Philadelphia. 1929. [Hessian fly, p. 25.]
Discussion of early history of fly in United States; quotes De Warville's New Travels in the United States of America.
- BREWER, W. H. (147)
[HESSIAN FLY.] Conn. State Bd. Agr. 1866, p. 86. 1867.
Mentions origin and injury.
- BRITTON, W. E. (148)
PLANT PEST HANDBOOK FOR CONNECTICUT (part 1, insects). Conn. Agr. Expt. Sta. Bull. 344: 176. 1933.
Brief popular résumé.
- BROOKS, W. H. (149)
MIAMI [COUNTY, KANSAS] FIGHTS HESSIAN FLY PEST. Kans. Farmer and Mail and Breeze 59 (33): 6. 1921.
Brief report on 18 control demonstrations during August 1921.
- EARLY PLOWING IS URGED. Kans. Farmer and Mail and Breeze 59 (34): 2. 1921.
Notice of control demonstrations in Miami County, Kans., August 9 to 19, 1921.
- BROWN, H. See Hall, A.
- BRUNER, L. (151)
HESSIAN FLY. Nebr. Agr. Expt. Sta. Press Bull. 19, 4 pp., illus. 1904.
Brief popular account.
- HESSIAN FLY, ITS NATURAL HISTORY AND COMMON ENEMIES. Nebr. Farmer 36 (51): 1233-1238. 1904.
General popular account.
- HESSIAN FLY. Iowa Homestead 50: 731, illus. 1905.
Description and habits; natural history; parasites and other enemies; remedies.
- HESSIAN FLY A SERIOUS MENACE TO THE WHEAT-GROWING INDUSTRY—EXTERMINATION THE ONLY REMEDY. Nebr. Farmer 37: 3. 1905.
Effect on Nebraska wheat crop in 1904-5; description; history in Nebraska; parasites; control.
- HESSIAN FLY. Nebr. Farmer 37: 796. 1905.
Cooperation in plowing under stubble for control.
- HESSIAN FLY. U.S. Dept. Agr., Climate and Crop Service of Weather Bur., Nebr. Sect. 10 (2): 3, illus. 1905.
Popular résumé.

BRUNER, L.—Continued.

(157)

HESSIAN FLY. Wis. Farmer 24: 248, illus. 1905.

Description; damage; number of broods; natural history; parasites; control.

— and SWENK, M. H.

(158)

SOME INSECTS INJURIOUS TO WHEAT DURING 1905-06—HESSIAN FLY (MAYETIOLA DESTRUCTROR SAY). Nebr. Agr. Expt. Sta. Bull. 96, 24 pp., illus. 1906.

Appearance in Nebraska in 1904; original home of fly; history in Nebraska; distribution; brief description; life cycle; variation in number of broods; effect of latitude and altitude; parasites; control.

BRYCE, P. I.

(159)

SOME INJURIOUS INSECTS OF STE ANNE DE BELLEVUE, 1917. Quebec Soc. Protect. Plants from Insects, Ann. Rpt. 10 (1917-18): 46-48. 1918. Injury by fly to spring wheat.

BRYSON, H. K.

(160)

HESSIAN FLY SURVEY. Tenn. Dept. Agr. Bien. Rpt. 1917-18: 65-66. 1918. Summary of survey; cooperation stressed.

BUEL, J.

(161)

ON THE ENEMIES OF THE WHEAT CROP—HESSIAN FLY. Mem. N.Y. Bd. Agr. 3: 326-338. 1826. (Reprinted in Amer. Farmer 8: 154.)

Early account; control; first and second generations; development of stages; effect of climate (compiled report).

See also BIRNIE, C.

BURGESS, A. F.

(162)

SOME ECONOMIC INSECTS FOR THE YEAR 1904 IN OHIO. U.S. Dept. Agr., Bur. Ent. Bull. 52: 52-55. 1905.

Account of outbreak, p. 55.

— SOME ECONOMIC INSECTS OF THE YEAR IN OHIO. U.S. Dept. Agr., Bur. Ent. Bull. 60: 71-74. 1905.

Injury by fly, p. 71.

BURNETT, E. A.

(164)

HESSIAN FLY. Nebr. Agr. Expt. Sta. Ann. Rpt. 37: 22-23. 1924.

Injury by counties in 1923; control; data on experiments relative to emergence and safe date of seeding.

— INSECT CONTROL. Nebr. Agr. Expt. Sta. Ann. Rpt. 39: 17. 1926.

Two observation stations mentioned for observing safe seeding dates.

BURRE, W. W., and STEWART, P. H.

(166)

INSECT PESTS OF WHEAT—HESSIAN FLY. Nebr. Agr. Ext. Circ. 120: 27. 1923.

Brief account.

BURTIS, P.

(167)

LETTER RELATIVE TO HESSIAN FLY. Amer. Mus. [Matthew Carey's] 2: 459. 1787.

Advertisement for sale of fly-proof seed wheat.

BUTCHER, F. D.

(168)

WATCH FOR THE FLY FREE DATE. Wallace's Farmer and Iowa Homestead 55: 1511. 1930.

Plea for late sowing.

See also DRAKE, C. J., et al.

C.

(169)

BIBLIOGRAPHICAL NOTICES—REPORT ON THE INSECTS OF MASSACHUSETTS, INJURIOUS TO VEGETATION. Amer. Jour. Sci. and Arts [Silliman's] 43: 386-389. 1842.

Review of Harris's publication.

- CAESAR, L.** (170)
AN ENEMY OF WINTER WHEAT. Farm and Dairy [Peterborough, Ont.] 31: 858. 1912.
 Outbreak of fly; life history; control.
- INSECTS OF THE SEASON IN ONTARIO—[HESSIAN FLY (MAYETIOLA DESTRUCTOR).]** Ent. Soc. Ontario, Ann. Rpt. 42: 33. 1912.
 Note on infestation. (171)
- INSECTS OF THE SEASON IN ONTARIO—HESSIAN FLY (MAYETIOLA DESTRUCTOR).** Ent. Soc. Ontario, Ann. Rpt. 43: 83, 1913; 44: 53, 1914.
 Note on infestation. (172)
- HESSIAN FLY.** Farmer's Advocate and Home Mag. 55: 1412. 1914.
 Why fields are unevenly infested; life history; control.
 See also Ross, W. A. (173)
- CALL, L. E.** (174)
DON'T BURN YOUR WHEAT STUBBLE. Farmers' Mail and Breeze 45 (24): 18. 1915.
 Wheat stubble in relation to injury by fly; recommends use of straw as top-dressing.
- SALMON, S. C., and CUNNINGHAM, C. C.** (175)
TIME TO SEED WHEAT IN KANSAS. Kans. Agr. Expt. Sta. Bull. 213, 16 pp., illus. 1916.
 Influence of fly on time of seeding; control of fly; experiments on best time to seed wheat in various sections of Kans.; preparation of seed bed; rate to seed wheat.
- A BETTER CHANCE FOR WHEAT.** Farmers' Mail and Breeze 47 (4): 8. 1917.
 Discusses relation of straw spreading on wheat land to injury by fly. (176)
- DAMAGE FROM HESSIAN FLY.** Farmers' Mail and Breeze 47 (14): 16. 1917.
 Reply to correspondent; discusses safe sowing date for various areas in Kansas. (177)
- CROP FOR WHEAT LAND.** Farmers' Mail and Breeze 47 (21): 16. 1917.
 Reply to correspondent; discusses suitable rotations for fly-infested land.
- and SALMON, S. C.** (179)
GROWING WHEAT IN KANSAS. Kans. State Agr. Col. Bull. 219: 25–28. 1928.
 Discussion of relation of fly control to growth of wheat in Kansas.
- HESSIAN FLY AND OTHER WHEAT INSECTS.** Kans. Agr. Expt. Sta. Rpt. 1924–26: 74–75, 1926; 1926–28: 69–70, 1928; 1928–30: 105–106, 1930–32: 90.
 Review of season's features; resistance to injury; biologic strains; time of planting; cultural measures, report for 1924–26, pp. 74–75. Discussion of experimental work on fly during biennium, report for 1926–28, pp. 69–70. Brief résumé of studies; distribution in field, life history in field; history in Kansas, report for 1928–30, pp. 105–106; report for 1930–32, p. 90.
 See also JARDINE, W. M. (180)
- CARTER, L.** (181)
OBSERVATIONS CONCERNING THE FLY WEEVIL THAT DESTROYS THE WHEAT, ETC. Amer. Phil. Soc. Trans. (2) 1: 274–287. 1789.
 Description; life history; control.

CARTWRIGHT, W. B.

HOST PLANT SELECTION BY HESSIAN FLY (*PYTOPHAGA DESTRUCTOR* SAY).
 Jour. Econ. Ent. 15: 360-363, illus. 1922.

Report on two sowings of various grains at Centralia, Ill., to determine relative attractiveness to flies for oviposition, and to obtain data on larval infestations.

(183)
 SEXUAL ATTRACTION OF THE FEMALE HESSIAN FLY (*PYTOPHAGA DESTRUCTOR* SAY). Canad. Ent. 54: 154-155. 1922.

Report on observations.

(184)
 DELAYED EMERGENCE OF HESSIAN FLY FOR THE FALL OF 1922. Jour. Econ. Ent. 16: 432-435. 1923.

Reports on delayed emergence in southern Illinois and nearby areas caused by abnormal conditions of temperature and rainfall; economic aspect of delayed emergence.

— and LARRIMER, W. H.

(185)
 DETERMINATION BY THE 5-SQUARE-YARD METHOD OF THE YIELD OF WHEAT PLOTS USED IN STUDIES OF THE HESSIAN FLY, *PYTOPHAGA DESTRUCTOR* SAY. Jour. Agr. Research 32: 1045-1048. 1926.

Introduction; statistical formulas; 5-square-yard method; 5-square-yard and other small-area harvesting methods compared; summary.

— BLANCHARD, R. A., and WILSON, C. C.

(186)
 NOTES FOR 1932 ON CEREAL AND FORAGE INSECTS IN CALIFORNIA. Calif. Dept. Agr. Monthly Bull. 22: 156. 1933.

Status; infestations; experimental tests of resistant varieties of wheat. See also LARRIMER, W. H.

CHAPAIS, J. C.

(187)
 A BRIEF STUDY OF A FEW CECIDOMYIIDAE. Quebec Soc. Protect. Plants from Insects and Fungus Diseases Ann. Rpt. 12: 28-31, illus. 1919-20. Control of fly in Canada.

CHAPMAN, I.

(188)
 SOME OBSERVATIONS ON THE HESSIAN FLY; WRITTEN IN THE YEAR 1797.
 (Read August 14, 1820.) Mem. Phila. Prom. Agr. Soc. 5: 143-153. 1826.

Appearance and spread in New York; migrations; description of stages; two generations; control.

CHASE, W. W. See LEWIS, A. C.

CHITTENDEN, F. H.

(189)
 A VARIETY OF WHEAT SAID TO BE IMMUNE FROM HESSIAN FLY. U.S. Dept. Agr., Div. Ent. Bull. (n.s.) 38: 107. 1902.

Dawson's Golden Chaff said to be immune.

CHRISTIE, G. I.

(190)
 [HESSIAN FLY.] Purdue Agr. Ext. Rpt. 10: 17-18, 1921; 11: 20, 1922.

Injury reduced as result of campaign in 1920, relative to the "fly free date"; report on injury reduced (Rpt. 10); decrease in infestation (Rpt. 11).

— and REED, H. J.

(191)
 [HESSIAN FLY.] Ind. Agr. Expt. Sta. Ann. Rpt. 34: 22. 1921.

Discussion of cooperative project between Federal and State workers.

— and REED, H. J.

(192)
 DEPARTMENT OF ENTOMOLOGY—THE HESSIAN FLY. Ind. Agr. Expt. Sta. Ann. Rpt. 35: 29. 1922.

Damage; report of sowing plot for experimental purposes.

— and REED, H. J.

(193)
 FIELD CROP INSECTS—HESSIAN FLY. Ind. Agr. Expt. Sta. Ann. Rpt. 36: 30. 1923.

Brief report on wheat-seeding plots.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 17

- CLARK, T. (194)
 [ON THE HESSIAN FLY.] Amer. Mus. [Matthew Carey's] 2: 299-300.
 1787.
- Gives report on expedition to Long Island for the purpose of obtaining information concerning fly. (Embodyed in G. Morgan's communication, pp. 298-300)
- CLINTON, L. A. (195)
 HESSIAN FLY EPIDEMIC. Country Gent. 65: 909. 1900.
- Letter from correspondent reporting injury in New York and central Northwest; discussion of certain changes in relation to injury and yield; quotes from Ohio and Michigan authorities on yield and control.
- COATES, B. H. (196)
 HESSIAN FLY. Farmers' Cabinet 5: 201-205. 1840.
- Report on observations of Miss Morris; habits and descriptions of fly and *Ceraphron destructor*.
- [HESSIAN FLY.] Acad. Natl. Sci. Phila. Proc. 1: 45. 1843. (197)
- Verbal communication regarding wheat collected in Moyamensing infested by pupae apparently of fly; adult issued though determination not absolute.
- [DIPTEROUS INSECTS OVIPOSITING IN OR ON GRAINS OF WHEAT.] Acad. Nat. Sci. Phila. Proc. 1: 57. 1841. (198)
- Observations of Miss Morris on oviposition.
- CECIDOMYIA. Farmers' Cabinet 5: 263-264. 1841. (199)
- Reply to criticisms on observations of Miss Morris.
- HESSIAN FLY. Acad. Nat. Sci. Phila. Proc.: 154. 1843. (200)
- Verbal communication to Society exhibiting specimens of larvae; discussion of larvae recently collected from straw; determination not certain.
- HESSIAN FLY—DISCOVERY BELIEVED TO HAVE BEEN MADE IN RELATION TO HESSIAN FLY. Farmers' Cabinet and Amer. Herdbook 5: 201-205. 1841. (201)
- Detailed discussion of Miss Morris' theory relating to fly, that "ovum is deposited in seed wheat"; life-history notes of fly compared with other insects; discussion of systematic position; Say's description noted.
- NOTE ON THE NATURAL ALLIANCES OF THE GENUS CECIDOMYIA, INTENDED TO FACILITATE IDENTIFICATION. Acad. Nat. Sci. Phila. Proc. 1842, 1843. (202)
- Systematic discussion with brief consideration of fly, 1842 (1), pp. 191-192; brief description of five natural groups of Tipulides, with notes on larvae of fly and parasites, 1843 (1), pp. 191-192.
- [CECIDOMYIA OF SAY.] Acad. Nat. Sci. Phila. Proc. 1: 45. 1843. (203)
- Verbal communication at meeting of June 22, 1841, describing puparium and larva, resembling that of *Cecidomyia* of Say, on wheat.
- [SAY'S INSECT.] Acad. Nat. Sci. Phila. Proc. 1: 54-66. 1843. (204)
- Verbal communication at meeting of July 18, 1841, on specimens of larvae and pupae of appearance of "Say's insect" in wheat grown near Germantown.
- COCKE, J. H. (205)
 ON THE HESSIAN FLY. NO. 1. Amer. Farmer 1: 295-296. 1819.
- Discussion of life history; control by grazing of crop after oviposition.
- HESSIAN FLY. Amer. Farmer 5: 241-242. 1823. (206)
- Reports finding of eggs in volunteer and early sown wheat.

- COCKE, J. H.—Continued. (207)
 WHITE FLINT WHEAT. Amer. Farmer 7: 109. 1825.
 A report that white flint wheat withstands attacks of fly.
- COLE, W. H. (208)
 KAFIR SEED WAS SELECTED. Farmers' Mail and Breeze 47 (43): 18. 1917.
 Recommends late sowing of wheat to avoid injury by fly.
-
- FIGHTING THE HESSIAN FLY. Farmers' Mail and Breeze 48 (52): 3. 1918.
 Value of late sowing to avoid fly injury.
- COMSTOCK, J. H. (210)
 HESSIAN FLY, PHYTOPHAGA DESTRUCTOR. In Introduction to Entomology, 818-819, illus. Ithaca N.Y. 1924.
 Brief general account.
- CONRADI, A. F. See BARRE, H. W.
- COOK, A. J. (211)
 HESSIAN FLY. Lecture delivered at Farmers' Inst., Paw Paw and Climax, Mich., 14 pp., illus. 1878.
 Origin of name; migration; bibliography; classification; description of stages; habits; control; parasites.
- COOK, W. C. (212)
 A BIOCLIMATIC ZONATION FOR STUDYING THE ECONOMICAL DISTRIBUTION OF INJURIOUS INSECTS. Ecology 10: 283-291. 1929.
 Fly injury in Montana in relation to variations in temperature, 291.
- COOLEY, R. A. (213)
 HESSIAN FLY. Mont. Agr. Expt. Sta. Bull. 170: 21, 25. 1925.
 Fly reported 30 percent injurious in eastern Montana; discussion of damage elsewhere; list of infested counties.
-
- MONTANA INSECT PESTS FOR 1929 AND 1930. Mont. Agr. Expt. Sta. Bull. 238: 22. 1930.
 Correspondence regarding fly at Baker, August 6, 1930.
- COOPER, E. (215)
 INSECTS AND INSECTICIDES—HESSIAN FLY (CECIDOMYIA DESTRUCTOR). Calif. State Hort. Comn. Fungi and Insects 1905: 20-21.
 Life history.
- COOPER, J. (216)
 LETTER FROM MR. JOSEPH COOPER TO WILLIAM RUSSELL, ESQ., ON THE HESSIAN FLY AND THE EARLY WHITE WHEAT. Mass. Soc. Prom. Agr. Papers on Agr. 1799: 26-28.
 Discusses first appearance at Coopers Point; notes on habits, life history, and control.
- COQUILLET, D. W. (217)
 [HESSIAN FLY.] Ill. State Ent. Ann. Rpt. 11: 7. 1882.
 Note on scarcity of fly.
- [CORDELL, H. B.] (218)
 HESSIAN FLY A MENACE TO OKLAHOMA 1930 WHEAT CROP. Northwestern Miller and Amer. Baker. 6 (12): 1097. 1929.
 Interview discussing Oklahoma conditions in 1929.
- CORDLEY, A. B. (219)
 HESSIAN FLY. Oreg. Agr. and Rural Northwest 7 (8): 118. 1898.
 Editorial reply to inquiry with notes on injury; estimates of damage; life-history data; control.
-
- REPORT OF THE ENTOMOLOGIST. Oreg. Agr. Expt. Sta. Ann. Rpt. 1900: 24-27. 1900.
 Report of occurrence in Oregon and Washington.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 19

- CORY, E. N. (221)
INSECTS OF 1912—HESSIAN FLY (*MAYETIOLA DESTRUCTOR*). Md. State Hort.
Soc. Rpt. 15: 189–190. 1912.
Outbreak in Maryland; safe dates for sowing.
- INSECT PESTS OF 1914. Md. State Hort. Soc. Rpt. 17: 104–112. 1915. (222)
Fly continued injurious in Maryland;
- HESSIAN FLY. Md. Agr. Ext. Serv. Bull. 7, 4 pp., illus. 1917. (223)
Popular résumé; safe sowing dates for Maryland.
See also SYMONS, T. B.
- COSENA, A. (224)
REPORTS ON INSECTS OF THE YEAR: DIVISION NO. 3. TORONTO DISTRICT.
Ent. Soc. Ontario, Ann. Rpt. 51: 12–13. 1921.
Fly one of the most serious pests of the year.
- COTTON, E. C. (225)
HESSIAN FLY. Ohio Dept. Agr. Off. Bull. 11 (7): 5. 1919.
Fly situation in Ohio in 1918; infestation; fly-free dates; reports on date of
sowing plats prepared by T. H. Parks.
- WHEAT—INSECT SURVEY FOR 1919. Ohio Dept. Agr. Off. Bull. 12 (7): 4–9, (226)
illus. 1919.
Discussion of effect of various dates of sowing in relation to fly-free dates;
infestation records for various counties; cooperation stressed, with examples;
map showing fly-free dates for Ohio.
- WHEAT INSECT SURVEY FOR 1919. RECOMMENDATIONS FOR HESSIAN FLY, ETC. (227)
Ohio Agr. Expt. Sta. Monthly Bull. 4: 240–245, illus.
Infestation in 1918; fly-free dates; cooperation.
- INSECT INFESTATION OF WHEAT FIELD. SURVEY OF THIRTY-FOUR OHIO (228)
COUNTIES SHOWS DANGER OF HESSIAN FLY. Ohio Farmer 164: 115, illus.
1929.
Report on cooperative work by counties; details of injury.
- OHIO WHEAT FIELD INSECT SURVEY FOR 1929. Ohio Agr. Expt. Sta. Bimo. (229)
Bull. 140 (Sept.–Oct. 1929): 153–155. 1929.
Annual report on joint project of the Ohio Agricultural Experiment
Station, the Ohio State University, and Ohio Department of Agriculture
on fly population in various parts of Ohio; disease; maps showing infesta-
tion and free seeding dates.
- CRIDDLE, N. (230)
INSECTS INJURIOUS TO GROWING GRAIN. Nor'West Farmer 26: 1157.
1907.
Description of fly; appearance of infested grain; remedial measures.
- INJURIOUS INSECTS OF 1911 AT TREESBANK, MANITOBA. Jour. Econ. Ent. 5: (231)
248–252. 1912.
Theory on life history; small damage to grain during 1911, pp. 248–249.
- INSECT PESTS OF SOUTHERN MANITOBA DURING 1912. Ent. Soc. Ontario, (232)
Ann. Rpt. 43 (36): 97–100. 1913.
Injury by fly in Alberta, pp. 97–98.
- THE VALUE OF SOME MAMMALS AND BIRDS AS DESTROYERS OF NOXIOUS (233)
INSECTS. Ottawa Nat. 28 (9): 124. 1914.
Abundance of fly scarcely influenced by birds.

CRIDDLE, N.—Continued.

(234)

HESSIAN FLY AND WESTERN WHEAT-STEM SAW-FLY IN MANITOBA, SASKATCHEWAN AND ALBERTA—HESSIAN FLY (*MAYETIOLA DESTRUCTOR SAY*). Canada Expt. Farms Bull. 11: 7-15. 1915.

History of introduction into western Canada; description; life history; injury and how recognized; food plants; means of distribution; natural enemies; relation to climatic conditions; control.

SOME STEM MAGGOTS ATTACKING GROWING GRAIN. Agr. Gaz. Canada 3 (6): 504-507. 1916.

Injury by fly compared with that by other indicated insects.

PRECIPITATION IN RELATION TO INSECT PREVALENCE AND DISTRIBUTION. Canad. Ent. 49: 79. 1917.

Influence of dry and wet weather on development of fly.

SOME INSECT PROBLEMS OF THE PRAIRIE PROVINCES. Ent. Soc. Ontario, Ann. Rpt. 49: 32-35. 1919.

Habits of fly.

THE COMMON INSECTS AND THEIR CONTROL. In Bracken, J., Crop Production in Western Canada, 423 pp., illus. Winnipeg, Canada. 1920.

A popular account of the fly and its control, pp. 372-373.

HESSIAN FLY IN THE PRAIRIE PROVINCES. Canada Dept. Agr. Pamphlet 30 (n.s.), 7 pp., illus. 1923.

Introduction; description; life history; host plants; control; weather factors; parasites.

CULT, A.

(240)

HESSIAN FLY. Farmers' Cabinet 6: 69. 1841.

Observations on experiments for control.

CUNNINGHAM, C. C. *See* CALL, L. E.

CURTIS, J.

(241)

OBSERVATIONS ON THE NATURAL HISTORY AND ECONOMY OF VARIOUS INSECTS AFFECTING THE CORN CROPS, INCLUDING * * * THE HESSIAN FLY (*CECIDOMYIA DESTRUCTOR*). Jour. Roy. Agr. Soc. England 6: 137-139. 1845.

Sketch of history; discovery in England; description and habits; parasites.

CECIDOMYIA DESTRUCTOR, SAY—THE AMERICAN WHEAT-MIDGE. In Farm Insects: Being the Natural History and Economy of the Insects Injurious . . . With Suggestions for Their Destruction. 528 pp., illus. Glasgow, Edinburgh, [etc.] Blackie & Son. 1860.

Account of fly (compiled chiefly from Kölner), pp. 258-260.

CURTISS, C. F.

(243)

INSECT OUTBREAKS. Iowa Agr. Expt. Sta. Ann. Rpt. 1922: 41.

Brief report of injury.

HESSIAN FLY CONTROL. Iowa Agr. Expt. Sta. Ann. Rpt. 1923: 43.

Figures on damage in Iowa in 1922; data on extent of cooperation work.

IOWA HESSIAN FLY TAX AND MENACE. Iowa Agr. Expt. Sta. Ann. Rpt. 1924: 43-44.

Estimates of losses by fly in Iowa 1922-23; reports from certain counties.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 21

- CURTISS, C. F.—Continued. (246)
WHEAT INSECTS. Iowa Agr. Expt. Sta. Ann. Rpts. 1924, 1926–1928.
- Discussion of safe sowing date in Iowa; flaxseed counts at Monona County Station, report for 1924, pp. 42–43; brief report on conditions, figures on losses 1922–26, report for 1926, p. 39; injury in enumerated counties in 1926, report for 1927, p. 36; and infestation by fly in Page and Fremont Counties, report for 1928, p. 33.
- DAVIS, G. C. (247)
REPORT OF THE CONSULTING ENTOMOLOGIST. Mich. Bd. Agr. Ann. Rpt. (1896) 35: 137–138. 1897.
Life history and control in Michigan.
- DAVIS, J. J. (248)
COOPERATION AMONG AGRICULTURAL WORKERS. Jour. Econ. Ent. 11: 406–410. 1918.
Value of cooperation in fly-control investigation.
- THE RELATION OF AGRONOMY TO ENTOMOLOGY; A PRACTICAL ILLUSTRATION. (249)
Canad. Ent. 50: 253–255. 1918.
Relation of fly control to good farm practice.
- THE CONTROL OF THREE IMPORTANT WHEAT PESTS IN INDIANA. (250)
Ind. Agr. Expt. Sta. Circ. 82, 11 pp., illus. 1918.
Popular discussion; life history and control in Indiana; map showing fly-free dates.
- PRESENT DAY PROBLEMS IN ENTOMOLOGY. (251)
Ent. Soc. Ontario, Ann. Rpt. (1918) 49: 50–52. 1919.
Brief account with especial reference to Bureau of Entomology, United States Department of Agriculture, work in Indiana and Illinois; control by date of seeding and destruction of volunteer wheat.
- INSECT PROBLEMS IN INDIANA DURING 1921. (252)
Jour. Econ. Ent. 15: 281. 1922.
Outbreak of fly at LaFayette, Ind., in 1922.
- HESSIAN FLY. (253)
Ind. Acad. Sci. Proc. (1925) 35: 305. 1926.
Conditions at La Fayette, 1924–25; emergence in relation to weather.
- INSECTS OF INDIANA * * * 1926–28. (254)
Ind. Acad. Sci. Proc. 36: 293–294, 1927; 37: 447–448, 1928; 38: 299–301, 1929.
Brief résumé; C. M. Packard quoted in Proceedings 38.
- DAY, D. D. See Moss, E. H.
- DEAN, G. A. (255)
INSECTS INJURIOUS TO WHEAT AND OATS. HESSIAN FLY (CECIDOMYIA DESTRUCTOR SAY). Kans. Agr. Ed. 1 (4): 30–34, illus. 1909.
History and distribution; habits and life history; control.
- PLOW UP BADLY INFESTED WHEAT. (256)
Farmer's Mail and Breeze 43 (4): 32. 1913.
Heavy infestation in northeastern Kansas; slight infestation in eastern half of Kansas; control; description of flaxseed.
- HESSIAN FLY. (257)
Kans. Agr. Expt. Sta. Tech. Bull. 188: 83–138, illus. 1913.
History and distribution; habits and life history; seasonal history; natural checks; injuries; control.
- and McCOLLOCH, J. W. (258)
HESSIAN FLY CONTROL. Kans. Farmer 52 (22): 5, illus. 1914.
Control; injury to Kansas wheat in 1908; life history.

DEAN, G. A.—Continued.

(259)
ROLLING THE HESSIAN FLIES. Farmers' Mail and Breeze 45 (12): 27. 1915.

Reply to correspondent that rolling the infested wheat will not control the fly.

(260)
HESSIAN FLY. Farmers' Mail and Breeze 45 (21): 17. 1915.

Losses in Kansas in 1908; control campaign in 1914; control methods discussed.

(261)
ABOUT THE HESSIAN FLY. Farmers' Mail and Breeze 45 (24): 6. 1915.

Reply to correspondent regarding time of egg laying by fly.

(262)
DESTROY THE VOLUNTEER WHEAT. Farmers' Mail and Breeze 45 (49): 6. 1915.

Destruction of volunteer wheat; late sowing; notes on habits of the fly.

(263)
HESSIAN FLY TRAIN. Jour. Econ. Ent. 9: 139-141, illus. 1916.

Description of "Hessian Fly Special," operated by the Kansas State Agricultural College in cooperation with the Atchison, Topeka & Santa Fe Railway.

(264)
PLOW THE STUBBLE EARLY. VOLUNTEER WHEAT CONTAINS A GREAT DEAL OF HESSIAN FLY. Farmers' Mail and Breeze 46 (5): 13, illus. 1916.

Discussion of control in relation to life history and habits of fly; various control measures outlined.

(265)
A LARGE FLY DAMAGE. Farmers' Mail and Breeze 46 (21): 3. 1916.

Fly damage in various areas in Kansas.

(266)
HESSIAN FLY SURVIVED. Farmers' Mail and Breeze 46 (39): 16. 1916.

Living fly present in dry stubble; emergence; control.

(267)
WHAT CAN BE DONE THIS WINTER TO PREVENT THE HESSIAN FLY. Kans. State Bd. Agr. 35 (137): 76-79. 1916.

General discussion of seasonal conditions; destruction of volunteer wheat; control.

(268)
RESULTS OF TEN YEARS OF EXPERIMENTAL WHEAT SOWING TO ESCAPE THE HESSIAN FLY. Jour. Econ. Ent. 10: 146-162, illus. 1917.

Normal time of fall-brood fly emergence and normal time for wheat sowing; data on experimental wheat sowings; table of percentages of plants infested by fall brood of fly in different parts of Kansas; discussion.

(269)
DAMAGE FROM HESSIAN FLY. Farmers' Mail and Breeze 47 (2): 6. 1917.

Reply to correspondent on life cycle of hessian fly in Sumner County, Kans.

(270)
HESSIAN FLY MENACE. Farmers' Mail and Breeze 49 (27): 29. 1919.

Injury in Kansas in 1919; life-history notes; control.

(271)
FIGHT THE HESSIAN FLY NOW. Farmers' Mail and Breeze 49 (31): 12, illus. 1919.

Prepare seed bed early in Kansas; sow after fly-free date; map showing safe sowing dates in Kansas.

(272)
HESSIAN FLY WARNING—SUMMER OF 1919. Kans. State Agr. Col. Ext. X-Form 112, 2 pp., illus. 1919.

Popular discussion; control; map showing safe sowing date.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 23

- DEAN, G. A.—Continued. (273)
HESSIAN FLY SITUATION. Kans. Farmer and Mail and Breeze 58 (14): 50. 1920.
Plea for destruction of infested stubble and volunteer wheat in Kansas; life-history notes.
- HESSIAN FLY CONTROL. Kans. Farmer and Mail and Breeze 58 (48): 8. 1920.
Reply to correspondent in Trego County, Kans., discussing various measures not effective in fly control; migration of adults; control.
- ANOTHER STEP IN THE CONTROL OF THE HESSIAN FLY. Jour. Econ. Ent. 16: 288–291, illus. 1923.
Four steps for control as demonstrated in Kansas; breeding of fly in "reservoirs," control.
- McCOLLOCH, J. W., and KELLY, E. O. G. (276)
HESSIAN FLY AND ITS CONTROL IN KANSAS. Kans. Agr. Ext. Form 225, 4 pp., illus., 1925; Form 229, 4 pp., illus. 1927.
Stages; life history; control; destruction of volunteer wheat; time of planting wheat (Form 225). Form 229 includes also seed-bed preparation; distribution of volunteer wheat; community cooperation; summary.
- DECKER, G. C. See DRAKE, C. J.
- DELAFIELD, J. (277)
A GENERAL VIEW AND AGRICULTURAL SURVEY OF THE COUNTY OF SENECA—INSECTS. N.Y. State Agr. Soc. Trans. 10: 522–526, illus. 1851.
Notes on habits, ravages, and control of hessian fly and other insects.
- DELAWARE AGRICULTURAL EXPERIMENT STATION. (278)
HESSIAN FLY. Del. Agr. Expt. Sta. Press Bull. 2, 1 p. 1899.
Brief popular account; safe-sowing dates in Delaware.
- DERR, H. B. (279)
INSECTS INJURIOUS TO BARLEY. U.S. Dept. Agr. Farmers' Bull. 443: 44–45. 1911.
Fly on barley.
- DEVEREAUX, W. L. (280)
HESSIAN FLY'S FAVORITE WHEAT. Rural New Yorker 37 (24): 376–377. 1878.
Clauzon and all white wheats infested; red wheats, especially Lancaster, not infested; examples given.
- AN ERROR IN HESSIAN FLY LITERATURE. Elmira, N.Y., Husbandman 12 (580): 4. 1885.
Repudiation of accepted theory on origin of fly; brief chronological report on early infestations.
- DOANE, R. W. (282)
COMMON PESTS, 297 pp., illus. Baltimore. 1931.
Popular account of hessian fly, pp. 229–231; control; list of safe-sowing dates.
- DODGE, J. R. (283)
INSECTS. U.S. Dept. Agr. Monthly Rpt. July 1866: 288. 1866–67.
Editorial on occurrence of fly in Adams County, Ohio.
- DONDLINGER, P. T. (284)
THE BOOK OF WHEAT, AN ECONOMIC HISTORY AND PRACTICAL MANUAL OF THE WHEAT INDUSTRY. 369 pp., illus. New York and London. 1916.
Hessian fly—distribution; description and life history; effect of larvae on wheat; losses; remedies, pp. 170–174.
- DOUGLASS, B. W. (285)
HESSIAN FLY. Ind. State Ent. Ann. Rpt. 1: 166. 1908.
Brief account of habits and control.

- DOUGLASS, B. W.—Continued. (286)
 DIPTERA—THE HESSIAN FLY. Ind. State Ent. Ann. Rpt. 2: 93. 1909.
 Origin of name; damage; control; brief note on parasites.
-
- MISCELLANEOUS INSECT NOTES. Ind. State Ent. Ann. Rpt. (1910-11) 4: 227-230. 1912. (287)
 Injury in Indiana; burning stubble, trap crops, and late planting; long quotation from Bruner on life history.
- DRAKE, C. J., FENTON, F. A., and BUTCHER, F. D. (288)
 OUTWITTING THE HESSIAN FLY. Iowa Agr. 23: 139-141, 156, illus. 1922.
 Introduction; first appearance in Iowa; life history; control.
-
- FENTON, F. A., and BUTCHER, F. D. (289)
 HESSIAN FLY CONTROL IN IOWA. Iowa Agr. Expt. Sta. Circ. 86, 11 pp., illus. 1923.
 Food plants; how to detect injury; life history; reproduction; how to determine fly-free dates; cooperation in control.
-
- FENTON, F. A., and BUTCHER, F. D. (290)
 THE IMPORTANCE OF THE FLAXSEED COUNT IN PREDICTING THE ACTUAL FLY-FREE DATE. Jour. Econ. Ent. 17: 480-486, illus. 1924.
 Report of experiments in flaxseed count in Monona County, Iowa; predicting the actual fly-free date; Iowa observation station records.
-
- and HARRIS, H. M. (291)
 THREE NEW SPECIES OF ENICOCEPHALIDAE. Ohio Jour. Sci. 27: 102-103. 1927.
 Discussion of *Systelloderus iowensis* found feeding on adults of hessian fly in a cage.
-
- AVOID HESSIAN FLY DAMAGE THIS FALL. Iowa Homestead 74: 1308. 1929. (292)
 Interview discussing injury in Illinois and urging cooperation in use of fly-free date.
-
- DON'T NEGLECT HESSIAN FLY PRECAUTIONS. Iowa Homestead 74: 1356. 1929. (293)
 Interview discussing injury in various States; urges use of fly-free seeding date.
-
- [REPORT OF WORK IN ENTOMOLOGY.] Iowa Agr. Expt. Sta. Rpt. 1931: 54-60, illus. 1932. (294)
 Hessian fly survey for year, pp. 56-57.
-
- and DECKER, G. C. (295)
 LATE FALL ACTIVITY AND SPRING EMERGENCE OF THE HESSIAN FLY IN IOWA. Ann. Ent. Soc. Amer. 25: 345-349. 1932.
 Résumé of observations; literature cited.
-
- DUGGAR, J. F., and GAUTHEN, E. F. (296)
 WHEAT INSECTS. Ala. Agr. Expt. Sta. Bull. 179: 124. 1914.
 Fly as possible menace to wheat.
-
- DUHAMEL DU MONCEAU, H. L. (297)
 ACCIDENTS OCCASIONED BY INSECTS—WHEAT INSECTS. Practical Treatise of Husbandry [London], pp. 90-91. 1759.
 Note on "little white worms" (determination uncertain) found in oats, and in wheat in Geneva in 1732 and 1755. (See also Insect Life 1: 86. 1888.)
-
- METHODS OF GUARDING AGAINST RAVAGES OF INSECTS AND BIRDS—WHEAT INSECTS. Elements Agr. [London] 1: 269-270. 1764. (298)
 Note on "worms" (determination uncertain) found in oats, and in wheat in Geneva in 1732 and 1755.

- DU PORTE, E. M. (299)
INSECT NOTES 1915. Quebec Soc. Protect. Plants Ann. Rpt. (1915-16) 8: 73-77. 1915-16.
Injury by fly.
- INSECTS OF SAINT ANNE'S QUEBEC, SEASON OF 1915. Ent. Soc. Ontario, Ann. Rpt. 46: 49. 1916.
Injury by fly.
- E., W. L. (300)
HESSIAN FLY. Okla. Agr. Expt. Sta. Ann. Rpt. 17: 60-62. 1908.
Introduction; description and development; parasites; control.
- EACHUS, H. (301)
HESSIAN FLY. Farmers' Cabinet 5: 269. 1841.
Report on depredations; control measures (by editor).
- EALAND, C. A. (302)
INSECTS AND MAN; AN ACCOUNT OF THE MORE IMPORTANT HARMFUL AND BENEFICIAL INSECTS, THEIR HABITS AND LIFE-HISTORIES, BEING AN INTRODUCTION TO ECONOMIC ENTOMOLOGY FOR STUDENTS AND GENERAL READERS. 343 pp., illus. New York, Century Co. 1915.
Brief popular résumé, pp. 34, 78-80.
- EASTWOOD, G. R. See GOSSARD, H. A.
- EBLING, W. H. See RUSSELL, H. L.
- ELLETT, W. B., and WOLFE, T. K. (303)
THE RELATION OF FERTILIZERS TO HESSIAN FLY INJURY AND WINTER-KILLING OF WHEAT. Jour. Amer. Soc. Agron. 13: 12-14. 1921.
Specific outbreaks in 1919; data on control experiments.
- ENGLISH, W. L. (304)
HESSIAN FLY. Okla. Agr. Expt. Sta. Inform. Circ. 9, [4] pp. 1908.
Life history; natural enemies; preventives; control.
- ENOCK, F. (305)
ON THE PARASITES OF THE HESSIAN FLY. Ent. Soc. London, Trans. (Proc.) 1887: xxxix-xlii. 1887.
Parasites of fly in barley.
- PARASITES OF THE HESSIAN FLY. Entomologist 21: 202-203. 1888. (306)
Breeding of parasites.
- THE HESSIAN FLY IN ENGLAND. Insect Life 1: 192. 1888. (307)
Outbreak in the Strand.
- THE LIFE-HISTORY OF THE HESSIAN FLY, CECIDOMYIA DESTRUCTOR SAY. Ent. Soc. London, Trans. 329-366, illus. 1891. (308)
Full report on life history with tabulated data on fly and parasites.
- ESSIG, E. O. (309)
THE HESSIAN FLY. Calif. Hort. Monthly Bull. 2 (1-2): 244-245, illus. 1913.
Brief popular account.
- INJURIOUS AND BENEFICIAL INSECTS OF CALIFORNIA. Calif. State Comm. Hort. Monthly Bull. Sep., 541 pp., illus. 1915. (310)
Popular account of the hessian fly, pp. 321-322.
- HESSIAN FLY, PHYTOPHAGA DESTRUCTOR (SAY). In Insects of Western North America * * * 1035 pp., illus. New York, Macmillan Co. 1926. (311)
Brief general account, pp. 545-547.

- ESSIG, E. O.—Continued. (313)
THE HESSIAN FLY. In A History of Entomology, 1029 pp., illus. New York, Macmillan Co. 1931.
- History of pest in California; résumé of United States Department of Agriculture Technical Bulletin 81, pp. 214–216.
- EWBANK, T. (314)
REVIEW OF THE PRINCIPAL CROPS GROWN IN UNITED STATES IN 1850. Commr. Patents Rpt. 1850 [pt. 2, Agr.]: 1–12. (Also issued as U.S. Cong. 31, 2d sess., House Exec. Doc. 32.) 1851.
 Review of fly conditions in 1850 based on correspondence with various farmers over the United States.
- FARRELL, F. D. (315)
INJURIOUS INSECTS AND OTHER PESTS. Kans. Agr. Expt. Sta. Rpt. 1918–19: 41–42. 1920.
 Brief account of life history in the field; period of emergence; distribution of the fly in the State; control measures; test of wheat varieties.
-
- (316)
RESISTANCE OF WHEAT VARIETIES TO HESSIAN FLY INJURY. Kans. Agr. Expt. Sta. Rpt. 1920–22: 20–21. 1922.
 Summary of results of field experiments.
-
- (317)
HESSIAN FLY AND OTHER WHEAT INSECTS. Kans. Agr. Expt. Sta. Rpt. 1922–24: 77–79. 1924.
 Effect of climatic conditions on life history; report of investigation on resistance of wheat to fly injury.
- FAXON, R. (318)
HESSIAN FLY, WHEAT INSECT SURVEY, 1924. Ohio Agr. Expt. Sta. Monthly Bull. 9 (7–8): 124–127. 1924. Also in Wheat Insect Survey, Ohio Dept. Agr., Div. Plant Industry, 3 pp., illus.
 Discussion of wheat insects survey; detailed figures on fly infestation and average safe sowing date by counties; records of dates of sowing on Clermont and Miami County Experiment Farms.
- FEDERAL RESERVE BANK, KANSAS CITY, Mo. (319)
 [CIRCULAR ON INSECT CONTROL.] Federal Reserve Bank, Kansas City, Mo., 2 pp. 1921.
 Estimates of damage in Missouri; control; map showing fly-free dates.
- FELT, E. P. (320)
HESSIAN FLY IN PENNSYLVANIA. Country Gent. 63: 546–547. 1898.
 Reply to correspondence from Adams County, Pa., various articles quoted; brief popular account of life history, habits, parasites, and control.
-
- (321)
HESSIAN FLY. Country Gent. 64: 628–629, 1899; 65: 942, 1900.
 Reply to correspondent regarding various control measures with brief popular discussion of life history and habits (v. 64). Reply to correspondence quoting article by A. D. Hopkins in West Virginia Agricultural Experiment Station Bulletin 67, regarding control measures and "normal rate of difference of time in periodical phenomena of plants and animals for all differences in latitude and altitude" (v. 65).
-
- (322)
 [HESSIAN FLY.] N.Y. State Mus. Bull. 6: 558, 565, 570, 575, 606; 7: 1008, 1015, 1022, 1026. 1900.
 Brief notes on occurrence in various counties of New York.
-
- (323)
ILLUSTRATED DESCRIPTIVE CATALOGUE OF SOME OF THE MORE IMPORTANT INJURIOUS AND BENEFICIAL INSECTS OF NEW YORK STATE. N.Y. State Mus. Bull. 8 (37): 31–32, illus. 1900.
 Popular account.
-
- (324)
WHEAT AND HESSIAN FLY. Amer. Agr. 67: 816. 1901.
 Brief note on control; request for data.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 27

FELT, E. P.—Continued.

(325)

HESSIAN FLY—BORERS. Country Gent. 66: 442. 1901.

Reply to correspondent, discussing various control measures.

(326)

HESSIAN FLY. Country Gent. 66: 486, 709. 1901.

Report of injury in western New York; appeal for cooperation enumerating data distributed; control, p. 486; quotes Professor Roberts' 3-year experiments on control; Dawson's Golden Chaff recommended as superior variety of wheat, p. 709.

(327)

HESSIAN FLY IN NEW YORK. Country Gent. 66: 799–800; N.Y. Farmer 20 (41): 7. 1901.

Report of specific outbreak in 1901, with percentages of loss; effect of weather on insects; remedial measures (Country Gent.). Outbreak in western New York; note on control; request for data (N.Y. Farmer).

(328)

WHEAT AND HESSIAN FLY. N.Y. Farmer 20 (39): 8. 1901.

Request for data; control.

(329)

17TH ANNUAL REPORT OF THE STATE ENTOMOLOGIST ... N.Y. State Mus. Bull. 53: 699–700, 705–730, 776–800, 814, 827, 845, 880, 899, illus. 1901.

Note on occurrence and damage; memoranda on collection; brief mention of injury; notes on exhibit at Pan American Exposition (pp. 699–700, 776–800, 814, 827, 845, 880, 899); origin; early injuries in New York; recent injuries in western New York; descriptions; time for sowing; parasites; control (pp. 705–730).

(330)

INSECTS IN NEW YORK—CONDITIONS DURING THE PAST SEASON. Country Gent. 67: 265. 1902.

Brief report on injury.

(331)

INJURIOUS INSECTS: CECIDOMYIA DESTRUCTOR SAY, N.Y. State Mus. Bull. 53: 705–730, 899, illus. 1902.

Early and recent injuries, descriptions, host plants, life history, number of generations, emergence, flight, moisture, time of sowing, parasites, preventives and remedial measures, resistant varieties, culture; bibliography for New York State.

(332)

[HESSIAN FLY.] N.Y. State Mus. Bull. 64: 107, 118, 119, 121, 125, 146, 147. 1902.

Decrease in infestation; early appearance in New York; extent of damage; parasite (*Entedon epigonus* Walk.).

(333)

HESSIAN FLY IN NEW YORK STATE IN 1901. U.S. Dept. Agr., Div. Ent. Bull. (n. s.) 31: 22–24. 1902.

Report on injuries from 1899–1901; percentages of loss; climatic effects.

(334)

IMPORTANCE OF INJURIOUS INSECTS INTRODUCED FROM ABROAD. Soc. Prom. Agr. Sci. Proc. 24: 39–48. 1903.

Losses caused by fly; quotation of estimates by Marlatt.

(335)

VOLUNTEER ENTOMOLOGICAL SERVICE OF NEW YORK STATE. N.Y. State Ent. Ann. Rpt. 19: 178–179, 183, 185. 1903.

Note.

(336)

THE LITERATURE OF AMERICAN ECONOMIC ENTOMOLOGY. U.S. Dept. Agr., Div. Ent. Bull. (n. s.) 40: 9, 24. 1903.

Discussion of literature on fly.

FELT, E. P.—Continued.

(337)

OBSERVATIONS ON THE BIOLOGY AND FOOD HABITS OF THE CECIDOMYIIDAE.
Jour. Econ. Ent. 1: 19. 1908.

Note on life cycle of fly in relation to food and climate.

OBSERVATIONS ON THE IDENTITY OF THE WHEAT MIDGE. Jour. Econ. Ent. 5:
286. 1912.

Note on identity of fly.

HESSIAN FLY. N.Y. State Ent. Ann. Rpt. 28 1912: 31-41. 1913.

Signs of infestation; causes of outbreak; losses in 1912; food plants;
life history; number of generations; emergence of flies; parasites; pre-
ventive and remedial measures.PHYTOPHAGA DESTRUCTOR SAY, HESSIAN FLY. N.Y. State Mus. Bull. 180:
212-213, illus. 1916.

Brief bibliography; descriptions of male and female.

HESSIAN FLY, PHYTOPHAGA DESTRUCTOR SAY. N.Y. State Ent. Ann. Rpt. 35:
51-54. 1921.

Note on fly survey, with tables forecasting probabilities of infestation.

KEY TO GALL MIGES. N.Y. State Mus. Bull. 257: 3, 4, 7, 9. 1925.
Economic importance; dispersion by wind; estimates of injury.PHYTOPHAGA DESTRUCTOR SAY. A LIST OF THE INSECTS OF NEW YORK.
N.Y. (Cornell) Agr. Expt. Sta. Mem. 101: 727. 1928.

Host plants; distribution.

DISPERSAL OF INSECTS BY AIR CURRENTS. N.Y. State Mus. Bull. 274:
89-111. 1928.

Fly dispersed by wind.

and BROMLEY, S. W. DEVELOPING RESISTANCE OR TOLERANCE TO INSECT ATTACK. Journ. Econ.
Ent. 24: 437-443. 1931.

Resistance in relation to vigor of plant.

FENTON, F. A. See DRAKE, C. J.

FERNALD, H. T.

SOME INSECTS INJURIOUS IN PENNSYLVANIA. Pa. Dept. Agr. Rpt. 1898 (1):
374-377, illus. 1899.Life history; character of injury; origin and distribution; insect enemies
and control in Pennsylvania.REPORT OF ECONOMIC ZOOLOGIST. Pa. Dept. Agr. Bull. 41: 108. 1899.
Estimate of loss from fly in Pennsylvania in 1899.SOME INSECTS INJURIOUS TO WHEAT—THE HESSIAN FLY (CECIDOMYIA DE-
STRUCTOR SAY). Pa. Dept. Agr. Bull. 46: 5-8, illus. 1899.

Life history; effect on wheat; origin and distribution; parasites; control.

SOME COMMON INSECT PESTS OF THE FARMER. Pa. Dept. Agr. Bull. 99: 7-10,
illus. 1902.

Life history; host plants; enemies; control.

APPLIED ENTOMOLOGY. 395 pp., illus. New York and London, McGraw-Hill,
Inc., 1926.

General account of fly, pp. 315-317.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 29

FISHER, M. L. See WIANCKO, A. T.

FITCH, A.

(351)

INSECTS OF THE GENUS CECIDOMYIA, INCLUDING THE HESSIAN FLY AND THE WHEAT-FLY. Amer. Quart. Jour. Agr. and Sci. 1: 255-269. 1845.

Insects allied to the Cecidomyidae; generic characters; foreign species, American species, including Hessian fly.

(352)

INSECTS INJURIOUS TO VEGETATION, NO. IV-V. THE HESSIAN FLY. Amer. Quar. Jour. Agr. and Sci. 4: 244, 1846; 5: 1-27, 1847.

General account.

, and BATEHAM, M. B.

(353)

ON WHEAT INSECTS. AN ESSAY ON THE WHEAT FLY, AND SOME SPECIES ALLIED TO IT. Ohio Cult. 2 (3): 17-18, illus. 1846.

History and habits of *Cecidomyia tritici* described by Fitch; editor (Bateham) supplements essay with description and habits of *Cecidomyia destructor*, with brief note on *Ceraphron* parasite.

(354)

THE HESSIAN FLY: ITS HISTORY, CHARACTER, TRANSFORMATIONS, AND HABITS. N.Y. State Agr. Soc. Trans. 6: 316-375, illus. 1847. 63 pp., illus. Albany, 1846. (Revised from Amer. Quart. Jour. Agr. and Sci. 4-5.)

Full treatment of *Cecidomyia destructor*, revised from two preceding numbers.

(355)

WHEAT INSECTS—JOINT-WORMS. Cultivator (n.s.) 8: 321-324. 1851.

Comparison of fly with jointworm.

(356)

[HESSIAN FLY.] In Noxious Insects of N.Y., pp. 278, 282. 1856.

Note on origin.

(357)

ADDRESS, ON OUR MOST PERNICIOUS INSECTS.—[HESSIAN FLY.] N.Y. State Agr. Soc. Trans. 19: 589-590. 1859.

Origin; appearance in Europe.

(358)

INSECTS INFESTING GRAIN CROPS—[HESSIAN FLY.] N.Y. State Agr. Soc. Trans. 20: 773, 787, 817, 825, 832, 868. 1860.

Description of *Cecidomyia amyotii*; habits of hessian fly larva; brief mention of parasite.

(359)

HESSIAN FLY (CECIDOMYIA DESTRUCTOR, SAY). N.Y. State Agr. Soc. Trans. 21: 819-830, illus. (Reprinted in Noxious Insects of N.Y. Rpt. 7: 133-144. 1862.)

Early history; description of stages; parasites; control.

(360)

[HESSIAN FLY.] N.Y. State Agr. Soc. Trans. 21: 831-832, 836, 842, 843, 844, 849, 851, 858-859, illus. 1861. (Reprinted in Noxious Insects of N.Y. Rpt. 7: 145-146, 150, 156, 157, 158, 163, 165, 172-173. 1862.)

Comparison with jointworm.

(361)

HISTORICAL NOTICE OF THE FIRST STARTING OF THE HESSIAN FLY IN THIS COUNTRY. N.Y. State Agr. Soc. Trans. 22 (Appendix): 685-686. 1863. (Reprinted in Noxious Insects of New York Rpt. 8: 203-204. 1863.)

Notes on early history.

(362)

INSECTS WHICH INJURE GRAIN CROPS—II. THE HESSIAN FLY. Country Gent. 28: 354, illus. 1866.

History and illustrations of *Cecidomyia destructor* and its parasites.

FITCH, E. A.

(363)

CECIDOMYIA DESTRUCTOR. Entomologist 20: 162. 1887.

Report of first appearance of spring brood.

FITZ, L. A.

PRINCIPAL INSECTS OF WHEAT—THE HESSIAN FLY. A WHEAT PRIMER. Kans.
State Agr. Col. Agr. Ed. 3 (17): 17-18. 1900.

Origin and description of stages; control.

FLETCHER, J.

NOTES ON THE PRINCIPAL INJURIOUS INSECTS OF THE YEAR 1885—[HESSIAN FLY]. Canada Expt. Farms Ent. Rpt. 1885: 6. 1885.
Outbreak in California and Oregon.

THE HESSIAN FLY (CECIDOMYIA DESTRUCTOR) IN GREAT BRITAIN. Canad. Ent. 19: 93-98. 1887.

Review of Ormerod's work on fly in Great Britain.

HESSIAN FLY. Ent. Soc. Ontario, Ann. Rpt. 17: 43-45. 1887.
Review of pamphlet by E. A. Ormerod.

HESSIAN FLY. Canada Expt. Farms Ent. and Bot. Rpt. 1889: 61-65, illus. 1889.

Outbreak in Canada; method of attack; breeding of parasites from infested straw; development of fly; control.

AMERICAN FRIT FLY. Canada Expt. Farms Ent. and Bot. Rpt. 1890: 158-161, illus. 1890.

Comparison of American frit fly with wheat-stem maggot and hessian fly.

NOTES ON INJURIES CAUSED BY HESSIAN FLY, ETC. Insect Life 3: 81-83. 1890.

Report of discussion on life history.

PRESIDENT'S INAUGURAL ADDRESS. [3D ANNUAL MEETING ASSOCIATION OF ECONOMIC ENTOMOLOGISTS.] Insect Life 4: 13. 1891.

Late sowing for control of fly.

NOTES UPON INJURIOUS INSECTS OF THE YEAR IN CANADA. Insect Life 3: 247. 1891.

Presence of fly.

INSECTS INJURIOUS TO GRAIN AND FORAGE CROPS—HESSIAN FLY (CECIDOMYIA DESTRUCTOR, SAY). Canada Cent. Expt. Farm. Bull. 11: 16, illus. 1891.
Description; control.

INSECT INJURIES OF THE YEAR 1895. Ent. Soc. Ontario, Ann. Rpt. (1895) 26: 31-32. 1896.

Fly recorded from Muskoka district.

INSECT INJURIES TO ONTARIO CROPS IN 1896. Ent. Soc. Ontario, Ann. Rpt. 27: 59. 1897.

Injury; control.

CEREALS—[HESSIAN FLY]. Canada Expt. Farms Rpt. Ent. and Bot. 1896: 137, 139-140, 226-227, illus.; 1897: 191.

Occurrence of fly in Prince Edward Island and percentage of damage in Ontario, pp. 137, 139-140; infestation in Ontario and Prince Edward Island, life history, and remedies, pp. 226-227, report for 1896; and note on outbreak on Prince Edward Island, p. 191, report for 1897.

HESSIAN FLY ATTACKING TIMOTHY. Canada Ent. 30:301. 1898.
Fly on timothy from Prince Edward Island.

FLETCHER, J.—Continued.

(378)

REPORT OF THE ENTOMOLOGIST AND BOTANIST. Canada Expt. Farms Ann. Rpt. 1898: 173-175, illus. 1899.

Popular life-history review; remedies; extracts from correspondence on various phases of problem.

INJURIOUS INSECTS IN 1898. Ent. Soc. Ontario, Ann. Rpt. 29:77. 1899.

Popular account.

(379)

WHEAT INSECTS—HESSIAN FLY (*CECIDOMYIA DESTRUCTOR*, SAY). Canada Expt. Farms Ent. and Bot. Rpt. 1899: 173-175, illus. 1899.

Life history; remedies; specific outbreaks in Canada.

(380)

CEREAL CROPS—[HESSIAN FLY.] Canada Expt. Farms Rpt. 1899: 163-170. 1899.

Specific outbreak in Manitoba; request for information; number of broods; control; parasites.

(381)

INJURIOUS INSECTS IN ONTARIO . . . 1899-1900. Ent. Soc. Ontario, Ann. Rpt. (1899) 30: 107; 31: 62-64. 1900.

Injury in western Ontario (Rpt. 30); report on serious outbreak in fall wheat; details of infestation; control (Rpt. 31).

(382)

INSECT PESTS—HESSIAN FLY (*CECIDOMYIA DESTRUCTOR*, SAY). Canada Expt. Farms Rpt. 1900: 197-201, illus. 1900.

Serious outbreak in western Ontario; reports from farmers; method of attack; remedies.

(383)

CEREALS—[HESSIAN FLY]. Canada Expt. Farms Ent. and Bot. Rpt. 1901: 214-217, illus.; 1902: 173-174, illus.; 1903: 173, illus.; 1904: 213, illus. 1901-4.

Ravages of fly in Ontario in 1900-1901; report from Middlesex County on infestation; parasites; remedies (1901 report). Elimination of fly in Ontario; control measures for Manitoba (1902 report). Fly eliminated from Ontario but present in Prince Edward Island and Manitoba; control (1903 report). Infestation in Canadian Provinces and spread into North Dakota (1904 report).

(384)

REPORT OF THE ENTOMOLOGIST AND BOTANIST. Canada Expt. Farms Rpt. 1901: 212; 1905: 162-166. 1901, 1905.

Injury caused by fly and drought to wheat and barley in western Ontario mentioned (1901 report); life history of fly and control, and extracts from correspondence from farmers (1905 report).

(385)

INSECTS INJURIOUS TO ONTARIO CROPS . . . 1902-3. Ent. Soc. Ontario, Ann. Rpt. (1902) 33: 80; 34: 63. 1903.

Injury light because of late sowing; injury in Manitoba (Rpt. 33); value of late sowing (Rpt. 34).

(386)

INJURIOUS INSECTS OF THE YEAR IN CANADA. U.S. Dept. Agr., Div. Ent. Bull. (n. s.) 40: 78. 1903.

Disappearance of fly in Ontario and serious outbreak in Manitoba.

(387)

INSECTS INJURIOUS TO GRAIN AND FODDER CROPS—HESSIAN FLY (*CECIDOMYIA DESTRUCTOR*, SAY). Canada Expt. Farms Bull. 52: 13-14. 1905.

Methods of attack; remedies.

(388)

HESSIAN FLY. Canada Expt. Farms, Rpt. 1908: 190-191. 1908.

(389)

Injury in Prince Edward Island; various control measures.

- FLINT, W. P., TURNER, C. F., AND DAVIS, J. J. (390)
 METHODS IN ENTOMOLOGICAL FIELD EXPERIMENTATION. *Jour. Econ. Ent.* 12: 178-183. 1919.
 Discussion of methods of making comparative counts of infestation; method of taking yields; method of estimating injury; continuity of investigations.
- , and LARRIMER, W. H. (391)
 HESSIAN FLY AND THE ILLINOIS WHEAT CROP. *Ill. Dept. Registr. and Ed. Div. Nat. Hist. Survey Bull.* 17 (11): 363-385, illus. 1928.
 General discussion; life history; control; date of seeding experiments; results in Winnebago, Boone, La Salle, Bureau, Hancock, Champaign, Macoupin, Marion, Randolph, Jackson, and Pulaski Counties; summary.
- SYMPOSIUM: THE EFFECT OF THE 1930 DROUGHT UPON INSECT POPULATION. (392)
 THE EFFECT ON CEREAL CROP INSECTS. *Jour. Econ. Ent.* 24: 654. 1931.
 Résumé; infestation light.
- , and METCALF, C. L. (393)
 INSECTS MAN'S CHIEF COMPETITORS. 133 pp., illus. Baltimore. 1932.
 Popular résumé of hessian fly, pp. 106-111; probable origin; life history; control.
 See also METCALF, C. L.
- FORBES, E. B. (394)
 HESSIAN FLY IN MINNESOTA. *Farm Students' Rev.* 6 (9): 133-134. 1901.
 Observations on injury in Minnesota; life history; control measures.
- HESSIAN FLY. *Minn. Agr. Expt. Sta. Press Bull.* 13, 11 pp., illus. 1901.
 Outbreak in Minnesota; life history; remedies; effect of weather; parasites.
- FORBES, S. A. (396)
 [HESSIAN FLY.] *Ill. State Ent. Ann. Rpt.* 12: 6, 1883; 13: 9, 22, 24, 36, 1884; 14: 3, 1885.
 Increase in southern Illinois (Rpt. 12); report on outbreak in southern Illinois; brief comparison of habits of wheat bulb-worm with fly; occurrence of fly in Du Quoin County, Ill. (Rpt. 13); and note on decreasing of fly by parasites (Rpt. 14).
- INVESTIGATING GRAIN INSECTS. *Prairie Farmer* 56 (23): 355. 1884.
 News item regarding investigation by W. H. Garman of fly in the Wabash Valley; injury by fly in Marshall County, Ill.
- THE ENTOMOLOGICAL RECORDS FOR 1885.—THE HESSIAN FLY (CECIDOMYIA DESTRUCTOR SAY). *Misc. Essays on Econ. Ent.* 23: 14-15, 16-17, 24. 1885.
 Infestation in southern Illinois; two important items in life history; prevention; parasites; fly and wheat vs. plant louse and corn.
- CONTRIBUTION TO A KNOWLEDGE OF THE LIFE HISTORY AND THE PARASITES OF THE HESSIAN FLY. *Ill. State Ent. Ann. Rpt.* 14 : 38-50, 119-120, illus. 1885.
 Observations during 1883-84 on life history of fly; detailed description of parasites (*Semiotellus destructor* Say; *Pteromalus pallipes*, n. sp.; *Pteromalus* (?) *fulvipes*, n. sp.; *Tetrastichus carinatus*, n. sp.), with calendars on life history.
- NOTES OF THE PAST YEAR'S WORK. *Canad. Ent.* 18: 176. 1886.
 Notes on fly in southern Illinois.
- [HESSIAN FLY.] *Ent. Amer.* 2:173. 1886.
 Note on hibernation in southern Illinois.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 33

FORBES, S. A.—Continued.

(402)

A NEW PARASITE OF THE HESSIAN FLY. *Psyche* 5: 39–40, illus. 1888.

Report of breeding of *Platygaster hiemalis* from puparia of fly, with description of parasite and comparison with other species of *Platygaster*.

(403)

[HESSIAN FLY.] *Ill. State Ent. Ann. Rpt.* 15: 3. 1889.

Localities of occurrence during 1885.

(404)

SECOND CONTRIBUTION TO A KNOWLEDGE OF THE LIFE HISTORY OF THE HESSIAN FLY (CECIDOMYIA DESTRUCTOR SAY). *Ill. State Ent. Ann. Rpt.*, 25: 21–34, illus. 1889. (Reprinted, with variations, from *Off. Ill. State Ent. Bull.* 3: 45–61, illus. Separate [Springfield, Ill.] pp. 21–34. 1889.

Extract from correspondence on occurrence in volunteer wheat; investigation in experimental sowings; summary and discussion; calendar and diagram of life history.

(405)

HESSIAN FLY. *Ill. State Bd. Agr. Circ.* 149: 31–34, illus. 1890.

Life history; preventive measures.

(406)

HESSIAN FLY. *Ill. Agr. Expt. Sta. Bull.* 12: 377–379, illus. 1890.

Brief general account; control.

(407)

GENERAL RECORD FOR 1887–1888 [HESSIAN FLY]. *Ill. State Ent. Ann. Rpt.* 16: ix–x. 1890.

Note on scarcity and history of fly.

(408)

THE IMPORTATION OF A HESSIAN FLY PARASITE FROM EUROPE. *Insect Life* 4: 179–181. 1891.

Report on imported *Semiotellus nigripes*.

(409)

GENERAL RECORD FOR 1889 AND 1890. [HESSIAN FLY.] *Ill. State Ent. Rpt.* 17: x–xi, xv. 1891.

Brief report on fly; increase in infestation; occurrence of partial second brood in Illinois.

(410)

ADDITIONAL NOTES ON THE HESSIAN FLY. *Ill. State Ent. Rpt.* 17: 54–63. 1891.

Observations on life history; practical control measures.

(411)

ADDRESS OF FIRST VICE-PRESIDENT. [4TH ANNUAL MEETING AMERICAN ASSOCIATION ECONOMIC ENTOMOLOGISTS.] *Insect life* 5: 71–72. 1892.

Note on introduction of *Entedon epigonus* Walker.

(412)

[HESSIAN FLY.] *Insect Life* 6: 66. 1893.

Author discusses question whether literature on hessian fly had any effect on agricultural communities where infestation occurred.

(413)

DISCUSSION OF PROGRAM OF AMERICAN ASSOCIATION OF ECONOMIC ENTOMOLOGISTS 1909. *Jour. Econ. Ent.* 2: 39. 1909.

Regulatory control of fly.

(414)

WHEN TO SOW WHEAT TO PREVENT HESSIAN FLY INJURY. *Prairie Farmer* 81 (17): 4. 1909.

Observations on safe sowing dates.

FORBES, S. A.—Continued.

(415)

HESSIAN FLY DOES MUCH HARM. Orange Judd Farmer 49: 312. 1910.

Estimate of damage in Illinois in 1910; brief description; preventive measures.

HESSIAN FLIES AND HOW TO FIGHT THEM. Prairie Farmer 84 (18): 15. 1910.

(416)

Habits; nature of injuries; control.

(417)

HESSIAN FLY IN ILLINOIS. Ill. Agr. Expt. Sta. Circ. 146, 5 pp. 1911.

General popular account; prevention of injuries; stages and life history; nature of injury to wheat; control.

FOUTS, R. M.

(418)

REVISION OF THE NORTH AMERICAN WASPS OF THE SUBFAMILY PLATYGASTERINAE. U.S. Natl. Mus. Proc. 63: 1-45, illus. 1924.

Contains descriptions and biological data on a considerable number of parasites of the fly.

FRENCH, L. L.

(419)

WHEAT INSECT. N.Y. State Agr. Soc. Trans. 18: 577. 1858.

Reply to circular inquiry of B. P. Johnson on condition of wheat crop.

FRISON, T. H.

(420)

[HESSIAN FLY.] Ill. Dept. Registr. and Ed. Ann. Rpt. 50 (1933): 26.

Brief résumé of status of fly.

FROGGATT, W. W.

(421)

REPORT OF THE ENTOMOLOGIST. Agr. Gaz. N.S. Wales 14: 797-798. 1903.

General account.

G., A.

(422)

HESSIAN FLY. Nat. Hist. Mag. 2: 292. 1829.

Report to correspondent on nature and mode of propagation of fly.

G., J.

(423)

HESSIAN FLY. Farmers' Cabinet 5: 139. 1840.

Remarks on discoveries of Miss Morris; request for control measures.

CECIDOMYIA, OR HESSIAN FLY. Farmers' Cabinet 5: 239. 1841.

(424)

Request for distinction between fly and *Ceraphron* parasite.

GAHAN, A. B.

(425)

NOTES ON SOME GENERA AND SPECIES OF CHALCID FLIES BELONGING TO THE APHELININAE WITH DESCRIPTIONS OF A NEW SPECIES. U.S. Natl. Mus., Proc. 55: 403-407. 1919.

Centrodera speciosissimus parasitic in puparia of fly.

NEW REARED PARASITIC HYMENOPTERA, WITH SOME NOTES ON SYNONYMY. U.S. Natl. Mus. Proc. 55: 113-128, illus. 1919.

(426)

Descriptions of certain fly parasites.

ON THE IDENTITY OF SEVERAL SPECIES OF CHALCIDOIDEA (HYMENOPTERA). Ent. Soc. Wash. Proc. 22: 238-239. 1920.

(427)

Merisus febriculosus Gir. as a parasite of fly; probable distribution.

DESCRIPTIONS OF MISCELLANEOUS NEW REARED PARASITIC HYMENOPTERA. U.S. Natl. Mus. Proc. 61: 1-24. 1922.

(428)

Descriptions of certain parasites reared from fly.

THE SERPHOID AND CHALCIDOID PARASITES OF THE HESSIAN FLY. U.S. Dept. Agr. Misc. Pub. 174, 147 pp., illus. 1933.

(429)

Comprehensive discussion of parasites, their hosts; life history; distribution and synonymy; review of literature; full bibliography.

- GAINS, A. (430)
 POTATO BUG AND HESSIAN FLY. Oreg. Nat. 3: 10-11. 1896.
 Habits; development; number of broods; control.
- GALBRAITH, A. (431)
 SEED LABORATORY REPORT. Wash. Dept. Agr. Bien. Rpt. (1916-18) 3: 141-142. 1918.
 Locality records of infestation by fly; life history; control.
- GARMAN, H. (432)
 SOME COMMON PESTS OF THE FARM AND GARDEN—THE HESSIAN FLY. Ky. Agr. Expt. Sta. Bull. 40: 3-7, illus. 1892. (Reprinted in Ky. Agr. Expt. Sta. Ann. Rpt. 5: 43-47. 1894.)
 Brief description; life history; years of common occurrence in Kentucky; treatment.
- HESSIAN FLY. Ky. Agr. Expt. Sta. Bull. 96: 193-198. 1901. (433)
 Increase in infestation; when the eggs are laid; description of stages; table showing result of climatic conditions on egg and adult fly.
- HESSIAN FLY EXPERIMENTS. Ky. Agr. Expt. Sta. Bull. 103: 229-244. 1902. (434)
 Report of experiments for the purpose of studying injuries and broods of fly, and to learn the effect on fly of applications of certain insecticides.
- HESSIAN FLY IN 1902-3. Ky. Agr. Expt. Sta. Bull. 111: 211-224. 1903. (435)
 Report of experiments; condition of wheat during winter and in spring; condition of plantings at harvest time; yield and quality of grain; observations on life history; egg laying; treatment of wheat with insecticides.
- ENTOMOLOGY AND BOTANY. Ky. Agr. Expt. Sta. Ann. Rpt. 29:51. 1916. (436)
 Brief discussion of work on fly in western Kentucky in 1915-16, to determine correct date for sowing wheat.
- HESSIAN FLY. Ky. Agr. Expt. Sta., Dept. Ent. & Bot. Circ. 4, 8 pp., illus. 1916. (437)
 Popular résumé, with special reference to Kentucky conditions.
- A FEW NOTES FROM KENTUCKY. Jour. Econ. Ent. 10: 413-415. 1917. (438)
 Observations on life history in western Kentucky.
- GARNETT, J. M. (439)
 ON THE HESSIAN FLY AND THE PROPER DEPTHS OF SOWING. Amer. Farmer 2: 173-174, illus. 1820.
 Letter to editor discussing correspondence from other contributors regarding cultural methods in relation to fly control.
- GAUTHEN, E. F. See DUGGAR, J. F.
- GAYLORD, W. (440)
 A TREATISE ON INSECTS INJURIOUS TO FIELD CROPS, ETC.—[HESSIAN FLY]. N.Y. State Agr. Soc. Trans. 3:141-143, illus. 1843.
 Brief account, with emphasis on history in United States; contains several early bibliographical references and records some inaccurate observations regarding depositing of eggs.
- GEIGER, W. (441)
 WHEAT AND OTHER CROPS IN OREGON. U.S. Commr. Patents Rpt. 1850 (pt. 2, Agr.): 14. 1851.
 Brief discussion of fly and wheat weevils in rotation to weather and climate in Oregon.

GIBSON, A.

THE CHIEF INJURIOUS INSECTS OF 1908. Canada Expt. Farms Ann. Rpt. 1909: 49-50. 1909.

Injury in Manitoba and Ontario and Niagara district in 1908; field conditions.

(442)

INSECTS OF THE YEAR 1908 AT OTTAWA—[HESSIAN FLY]. Ent. Soc. Ontario, Ann. Rpt. 39: 117. 1908.

Note on occurrence.

(443)

REPORTS ON INSECTS OF THE YEAR—[THE HESSIAN FLY]. Ent. Soc. Ontario, Ann. Rpt. 41: 12. 1911.

Brief report on occurrence.

(444)

INSECTS AFFECTING FIELD AND GARDEN CROPS. Canada Dept. Agr., Dominion Ent. Rpt. 1919-20: 7-11. 1923.

Note on outbreak in Ontario in 1919, p. 10; outbreak in Ontario, particularly in Essex County, in 1920, p. 15.

(445)

GILLETTE, C. P.

REPORT OF THE ENTOMOLOGIST Colo. Agr. Expt. Sta. Ann. Rpt. 40: 29-31. 1927.

Fly first found in Phillips County, p. 30.

(446)

GLOVER, T.

INSECTS INJURIOUS AND BENEFICIAL TO VEGETATION. U.S. Commr. Patents Rpt. 1854 (Agr.): 59-74. 1855.

The hessian fly—description and life history; parasites; control.

(447)

GOLDSBOROUGH, R. H.

HESSIAN FLY—RARE-RIPE WHEAT. Amer. Farmer 9: 99-100. 1827.

Description of rare-ripe wheat, with observations on fly-proof qualities.

(448)

GOODE, G. B.

NATIONAL SCIENTIFIC AND EDUCATIONAL INSTITUTIONS. Smithsn. Inst. Ann. Rpt. 1897 (v. 2, pt. 2): 273. 1901.

Discusses letter from George Washington to Arthur Young, December 5, 1791, regarding injury by fly.

(449)

[HESSIAN FLY.] BEGINNINGS OF AMERICAN SCIENCE. Smithsn. Inst. Ann. Rpt. 1897 (v. 2, pt. 2): 426, 429. 1901.

Mention of E. C. Herrick's treatise on hessian fly and its parasites, the result of 9 years' study, p. 426; mention of treatise of 1789 by Landon Carter on fly in Virginia, p. 429.

(450)

GORHAM, R. P.

WHEAT INSECTS IN NEW BRUNSWICK A CENTURY AGO. Sci. Agr. 7: 287-289. 1927.

Outbreak in New Brunswick in 1925; early history and spread in North America.

(451)

GORRIE, A.

SOME ACCOUNT OF THE HESSIAN FLY. Loudon's Mag. Nat. Hist. (London) 2: 292, 323-324. 1829.

Letters from correspondent containing discussion of insect which he thinks was fly; identity not certain.

(452)

ON THE WHEAT FLY. Mag. Nat. Hist. [London] 2: 323-324. 1829.

Further observations on fly; note on control.

(453)

[ON THE WHEAT FLY.] In Loudon's Encyclopedia of Agriculture [London], p. 820, illus. 1839.

Notes on fly and related species.

(454)

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 37

- GOSSARD, H. A. (455)
HESSIAN FLY AND WHEAT MIDGE. Nebr. Farmer 36 (29): 945. 1904.
Popular discussion with emphasis on control.
- HESSIAN FLY. Ohio Agr. Expt. Sta. Press Bull. 283, 1 p. 1906. (456)
On variety of wheat to be sown and date for sowing.
- and HOUSER, J. S. (457)
HESSIAN FLY, MAYETIOLA DESTRUCTOR SAY. Ohio Agr. Expt. Sta. Bull. 177, 39 pp., illus. 1906.
History and distribution; description; life history and habits; larvae; food plants; discussion of fly-proof varieties of wheat; damage done; fall and spring broods; parasites; control.
- SPRING PRACTICE IN ECONOMIC ZOOLOGY—[HESSIAN FLY, MAYETIOLA DESTRUCTOR]. Ohio Agr. Expt. Sta. Bull. 198: 34. 1908. (458)
Note on method of detecting pupae.
- NOTES OF THE SEASON. Jour. Econ. Ent. 1: 187. 1908. (459)
Fly scarce in Ohio in 1908.
- RELATION OF INSECTS TO HUMAN WELFARE. Jour. Econ. Ent. 2: 317–318, 324. 1909. (460)
Estimates of damage by fly; fly listed among introduced insects.
- HESSIAN FLY WARNING. Farmers' Guide 23: 963. 1911. (461)
Note on seeding dates.
- HESSIAN FLY WARNING. Ohio Agr. Expt. Sta. Press Bull. 325, 1 p. 1911. (462)
On safe sowing dates.
- WHEAT INSECTS. Ohio Agr. Expt. Sta. Mo. Bull. 223: 62–66. illus. 1911. (463)
Appearance of second brood of fly; control; normal dates for seeding.
- ENTOMOLOGICAL REVIEW OF THE YEAR—[HESSIAN FLY]. Jour. Econ. Ent. 4: 207–208. 1911. (464)
Note on fly control.
- FALL MANUAL OF PRACTICE IN ECONOMIC ZOOLOGY. Ohio. Agr. Expt. Sta. Bull. 233: 55–57, 62–64, 66, 69, 70–71. 1911. (465)
Brief general discussion of habits and control with map showing safe dates of seeding wheat; fly on barley and rye.
- HESSIAN FLY DAMAGE. Ohio Farmer 127: 3. 1911. (466)
Brief general account.
- and HARRY, S. G. (467)
SOME OHIO BIRDS. Ohio Agr. Expt. Sta. Bull. 250: 32. 1912.
Hessian fly eaten by American goldfinch, *Astragalinus tristis* (Linn.)
- COUNTY COOPERATION TO REDUCE HESSIAN FLY INJURY. Jour. Econ. Ent. 9: 142–145. 1916. (468)
Report of organization in Miami County, Ohio; installation of breeding cage and keeping of egg-laying record at county experiment farm; description of breeding cage.
- and EASTWOOD, G. R. (469)
COUNTY COOPERATION TO CONTROL HESSIAN FLY. Ohio Agr. Expt. Sta. Monthly Bull. 1: 230–232. 1916.
Report of farmers' organization for uniform seeding date; results obtained.

GOSSARD, H. A.—Continued.

(470)

ENTOMOLOGICAL SURVEY OF OHIO WHEAT FIELDS—HESSIAN FLY. Ohio Agr. Expt. Sta. Monthly Bull. 2 (9) (whole no. 21): 284–285. 1917.
Slight infestation in 12 Ohio counties.

THE WHEAT-INSECT SURVEY OF 1918—HESSIAN FLY INFESTATION. Ohio Agr. Expt. Sta. Monthly Bull. 3 (9) (whole no. 33): 262, illus. 1918.
Infestation in northwestern Ohio.

— and PARKS, T. H. (471)
OHIO WHEAT SURVEY. Jour. Econ. Ent. 12: 60. 1919.
Discussion of wheat survey in relation to fly and different species of joint-worms.

WHEAT INSECT SURVEY OF 1921—SOME HESSIAN FLY IN NORTHWESTERN OHIO, ETC. Ohio Agr. Expt. Sta. Monthly Bull. 6: 108–110, illus. 1921.
Report on efforts to prevent fly damage; percentage of infestation; map showing safe seeding dates.

— and PARKS, T. H. (472)
HESSIAN FLY PREVENTION. Jour. Econ. Ent. 14: 53–60. 1921. (Reprinted, with variations, in Ohio Agr. Expt. Sta. Monthly Bull. 6 (5–6) (whole nos. 65–66): 67–76. 1921.)

Preliminary work of 1919 and 1920, with results from late sowing campaigns; method for discovering seeding date; October egg laying; summary; discussion.

— and PARKS, T. H. (473)
HESSIAN FLY CONTROL IN 1921 AND 1922. Ohio Agr. Expt. Sta. Monthly Bull. 7: 160–167, illus. 1922.

Report of control measures, with tables; map of average percentage of infested straws.

GOTT, B. (474)
NOTES OF THE YEAR. Ent. Soc. Ontario, Ann. Rpt. 9: 55. 1879.

Brief account of occurrence of fly in 1877.

GRANTHAM, A. E. (475)
HESSIAN FLY. Pract. Farmer 112: 296. 1916.
Control.

GRAY, C. W. See WHITEHEAD, C.

GRAY, J. B. (476)
FLY-PROOF WHEAT. Farmers' Cabinet 5: 388. 1841.
Describes wheat said to be fly proof.

GREAT BRITAIN BOARD OF AGRICULTURE AND FISHERIES. (477)
HESSIAN FLY (CECIDOMYIA DESTRUCTOR). [Gt. Brit.] Min. Agr. and Fisheries Leaflet 125, 3 pp., illus. 1904.
Plants attacked; description; life history; treatment.

REPORT ON THE OCCURRENCE OF INSECT AND FUNGUS PESTS ON PLANTS IN ENGLAND AND WALES IN THE YEAR 1917. [Gt. Brit.] Min. Agr. and Fisheries Misc. Pub. 21, 32 pp. 1917.
Fly in Sensation variety of wheat.

GREEN, G. A., ARMSTRONG, W. A., and others. (481)
HESSIAN FLY NOTES. Amer. Ent. 3: 21. 1880.
Effect of fertilizing; discussion on late sowing.

GREEN, J. (482)
ON THE FLY IN WHEAT. Amer. Farmer 4 (23): 183. 1822.
Correspondence regarding injury by fly in Culpeper County, Va.; identity of insect uncertain.

- GREGORY, C. V. (?) (483)
 CONTROLLING HESSIAN FLY—DON'T PLANT TOO EARLY, EXPERTS SAY, OR THE FLY WILL GET YOUR WHEAT. Prairie Farmer 92 (36): 2018. 1920.
 Popular discussion of control measures with maps indicating safe seeding dates for Indiana and Illinois.
- H., W. L. (484)
 OBSERVATIONS ON THE HESSIAN FLY. Farmers' Cabinet 5: 229–230. 1841.
 Report on experiments; habits.
- HAGEN, H. A. (485)
 PROBABLE PARTHENOGENESIS OF CECIDOMYIA DESTRUCTOR. North Amer. Ent. 1: 65–66. 1880.
 Notes on development of unfertilized eggs.
-
- THE HESSIAN FLY NOT IMPORTED FROM EUROPE. Canad. Ent. 12: 197–207. 1880. (Also reprinted in U.S. Ent. Comn. Rpt. 3, App. v. 4, pp. [43]–[49], 1883.) (486)
 Origin of fly.
-
- THE FIRST NUMERO OF THOMAS SAY'S AMERICAN ENTOMOLOGY AND TWO LETTERS ON THE HESSIAN FLY HITHERTO NOT MENTIONED AMONG HIS PUBLISHED PAPERS. Psyche 4: 145–146. 1884. (487)
 Note on fly.
-
- FURTHER MATERIAL CONCERNING THE HESSIAN FLY. Canad. Ent. 17: 81–93. 1885. (488)
 Records of occurrence of *Cecidomyia destructor* in North America before the Revolution.
-
- ON THE HESSIAN FLY IN ITALY. Canad. Ent. 17: 129–131. 1885. (489)
 Evidence of existence of *Cecidomyia destructor* in Italy; reproduction of species by paedogenesis; habits of the larvae.
- HALE, T. (490)
 [THE WHEAT INSECT.] In A Compleat Body of Husbandry, v. 4, pp. 347–348. 1759.
 Habits; control; determination not certain.
- HALL, A., and BROWN, H. (491)
 [HESSIAN FLY.] Ohio State Bd. Agr. Ann. Rpt. (1853) 8: 122. 1854.
 Status of fly in Hancock County, Ohio.
- HALL, S. L. (492)
 HESSIAN FLY. Encyclopedia Britannica, ed. 9, v. 11, p. 781. 1880.
 Origin and classification; fly in Europe; habits, number of broods, and effect on wheat; parasite (*Semiotellus destructor*).
- HARMAN, J. (493)
 HESSIAN FLY. Mich. State Bd. Agr. Ann. Rpt. 65: 204. 1927.
 Report on results of infestation survey in seven counties.
- [HARRIS, T. W.] (494)
 EXTRACTS FROM A PAPER ENTITLED "SOME ACCOUNT OF THE INSECT KNOWN BY THE NAME OF THE HESSIAN FLY, AND OF A PARASITIC INSECT THAT FEEDS ON IT, BY THOMAS SAY." New England Farmer 9 (2): 9. 1830.
 Quotes description and life history of *Cecidomyia destructor* and parasite, *Ceraphron destructor*.
-
- WHEAT INSECTS. New England Farmer 19: 306–307. 1841. (495)
 Describes *Cecidomyia tritici*, or wheat midge; urges observations leading to more complete knowledge of fly.

[HARRIS, T. W.]—Continued.

(496)

A TREATISE ON SOME OF THE INSECTS OF NEW ENGLAND WHICH ARE INJURIOUS TO VEGETATION, 459 pp. 1842.

The far-famed hessian fly—description; origin; habits and transformations; theory of Miss Morris; control; parasites, pp. 421–433; ed. 2, pp. 450–470, 1852; ed. 3, pp. 565–587, 1862; (ed. C. L. Flint) 1890, pp. 565–587.

HESSIAN FLY. New England Farmer 20: 409–410. 1842. (From Harris's Report on Insects of Massachusetts.)

Description; Hessian troops not responsible for introduction of fly; food plants; brief history of habits and transformations; control.

OBSERVATIONS ON THE TRANSFORMATIONS OF THE CECIDOMYIAE. Boston Soc. Nat. Hist. Proc. 7: 179–183. 1861.Stages of development of *Cecidomyiae salacis* (Fitch), *tritici* (Kirby), and *destructor* (Say).

See also HERRICK, E. C.

HARTLEY, L. (499)

WHITE FLINT AND LAWLER WHEAT. Amer. Farmer 7: 182. 1825.

Comparison of two varieties of wheat.

HASEMAN, L. (500)

HESSIAN FLY (CECIDOMYIA DESTRUCTOR—SAY). Mo. State Bd. Agr. Ann. Rpt. 44: 283–285, illus. 1912.

Life history; control.

CONTROLLING THE HESSIAN FLY. Mo. Agr. Expt. Sta. Press Bull. 42, 1 p. 1914. Appearance in northwestern Missouri; control.

SOW WHEAT LATE AND ESCAPE THE FLY. Mo. Agr. Expt. Sta. Bull. 55, 1 p. 1914.

Control.

HESSIAN FLY IN MISSOURI. Mo. Agr. Expt. Sta. Circ. 70: 21–24, illus. 1914. Nature of injury to wheat; life history; remedies.

INSECT PESTS OF THE FARM. Mo. State Bd. Agr. Monthly Bull. 13 (10): 7. 1915.

Control.

AN INVESTIGATION OF THE SUPPOSED IMMUNITY OF SOME VARIETIES OF WHEAT TO THE ATTACK OF HESSIAN FLY. Jour. Econ. Ent. 9: 291–294. 1916.

Prevalence of fly in Mississippi Valley; results of one year's experiments on three varieties of wheat, with plans for second year's work.

and HOLLINGER, A. H. (506) WORK AND PROGRESS OF THE [MO.] AGRICULTURAL EXPERIMENT STATION 1915: 141. 1916.

Brief discussion of the hessian fly-resistant qualities of the different varieties of wheat.

and VINSON, C. G. (507) AN INVESTIGATION OF THE HESSIAN FLY-RESISTANT QUALITIES OF DIFFERENT VARIETIES OF WHEAT. Mo. Agr. Expt. Sta. Bull. 147: 32. 1917.

Brief summary of wheat varieties tested for comparative fly resistance.

ANNUAL CYCLE OF THE HESSIAN FLY IN MISSOURI AND ITS CONTROL. Mo. Agr. Expt. Sta. Bull. 151: 39. 1917.

Summary of results from experimental plots in various localities in Missouri.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 41

- HASEMAN, L.—Continued. (509)
 HESSIAN FLY. Jour. Econ. Ent. 12: 218. 1919.
 Note on experiments on resistance of various strains of wheat to attack by fly.
- HOLLINGER, A. H., SULLIVAN, K. C., and KEATH, J. I. (510)
 ANNUAL CYCLE OF THE HESSIAN FLY IN MISSOURI AND ITS CONTROL. Mo. Agr. Expt. Sta. Bull. 163: 42-43. 1919.
 Brief discussion of results of experimental plots.
- INSECT PESTS OF WHEAT. Mo. Agr. Expt. Sta. Bull. 170: 17-25, illus. 1920. (511)
 Description; life history; injury; control.
- HESSIAN FLY AND ITS CONTROL. Mo. Agr. Ext. Circ. 80, 4 pp., illus. 1920. (512)
 Appearance in Missouri; map of fly-free dates; brief description; number of broods; control; cooperation.
- HESSIAN FLY SITUATION IS SERIOUS. Mo. Farmer 13: 710. 1921. (513)
 Résumé; fall conditions in central Missouri.
- SULLIVAN, K. C., and McLANE, S. R. (514)
 THE ANNUAL LIFE CYCLE OF THE HESSIAN FLY IN MISSOURI AND ITS CONTROL. Mo. Agr. Expt. Sta. Bull. 179: 27-28. 1921.
 Reports on experiments in Missouri to determine fall infestation and yield.
- SULLIVAN, K. C., and McBRIDE, O. C. (515)
 THE ANNUAL LIFE CYCLE OF THE HESSIAN FLY IN MISSOURI AND ITS CONTROL. Mo. Agr. Expt. Sta. Bull. 189: 35-36. 1921.
 Report of experiments conducted at different points in Missouri.
- and McLANE, S. R. (516)
 AN INVESTIGATION OF THE HESSIAN FLY RESISTANT QUALITIES OF DIFFERENT VARIETIES OF WHEAT. Mo. Agr. Expt. Sta. Bull. 179: 26-27. 1921.
 Percentage of yield of fly-infested varieties of wheat; table of relative susceptibility of several varieties.
- and McBRIDE, O. C. (517)
 HESSIAN FLY RESISTANT QUALITIES OF DIFFERENT VARIETIES OF WHEAT. Mo. Agr. Expt. Sta. Bull. 189: 35. 1921.
 Note on sowing of wheat for experimental purposes.
- SULLIVAN, K. C., and McBRIDE, O. C. (518)
 TO DETERMINE ACCURATELY THE LIFE CYCLE OF THE HESSIAN FLY IN MISSOURI AND THE MOST EFFECTIVE METHODS OF CONTROLLING. Mo. Agr. Expt. Sta. Bull. 197: 65. 1922.
 Report of experiments made at different points in Missouri, with record on yields from experimental plots.
- SULLIVAN, K. C., and McBRIDE, O. C. (519)
 THE ANNUAL LIFE CYCLE OF THE HESSIAN FLY IN MISSOURI AND ITS CONTROL. Mo. Agr. Expt. Sta. Bull. 210: 48-49. 1924.
- and SULLIVAN, K. C. (520)
 THE ANNUAL LIFE CYCLE OF THE HESSIAN FLY IN MISSOURI AND ITS CONTROL. Mo. Agr. Expt. Sta. Bull. 228: 48, 1925; Bull. 236: 51, 1926; Bull. 244: 36, 1926.
 Data from given localities on wheat seeding plots (Bull. 228); report on control and experimental plants at various designated colonies (Bulls. 236, 244).
- and SULLIVAN, K. C. (521)
 AN INVESTIGATION TO DETERMINE THE CAUSES OF THE PERIODICAL RECURRANCE OF INSECT PESTS AS SCOURGES. Mo. Agr. Expt. Sta. Bull. 236: 52. 1926.
 Decline of injury by fly.

HASEMAN, L.—Continued.

(522)
HESSIAN FLY THREATENS WHEAT CROP. Mo. Farmer 21 (18): 352. 1929.
General discussion; life habits of fly; control.

(523)
THE HESSIAN FLY LARVA AND ITS METHOD OF TAKING FOOD. Jour. Econ. Ent. 23: 316-321, illus. 1930.

Discussion in some detail of morphology and physiology of fly larva, particularly head and mouth, esophagus, salivary glands, proventriculus, Malpighian vessels, ileum, and colon.

(524)
REPORT OF WORK IN ENTOMOLOGY AT THE MISSOURI STATION. Mo. Agr. Expt. Sta. Bull. 300: 68-71. 1931.
Study continued of fly-resistant qualities of wheat.

(525)
ANATOMY OF THE HESSIAN FLY LARVA. Jour. Econ. Ent. 24: 417-419. 1931.
General anatomy of full-grown larva.

(526)
HESSIAN FLY RESISTANT VARIETIES OF WHEAT. Mo. Agr. Expt. Sta. Bull. 328: 129. 1933.
Brief résumé.

HATCH, H. (527)
JAYHAWKER'S FARM NEWS. Farmer's Mail and Breeze 49 (41): 13. 1919.
Discussion of late sowing vs. fly.

(528)
FED FLY FOUR YEARS. Kans. Farmer 62 (45): 24. 1924.
Control experiments by a farmer near Neosho Rapids, Kans.

(529)
'RAS WITH HESSIAN FLY. Kans. Farmer 63 (47): 10. 1925.
Probably little injury by fly in Coffey County, Kans.

HAVENS, J. N. (530)
OBSERVATIONS ON THE HESSIAN FLY. N.Y.Soc.Prom.Agr., Arts and Manfrs. Trans. 1: 89-107. 1792.
Observations on origin, ravages, life history, and remedies.

(531)
OBSERVATIONS ON THE HESSIAN FLY. N.Y.Soc.Prom.Agr., Arts and Manfrs. Trans. (Ed. 2, rev.) 1: 71-86. 1801.
First occurrence on Long Island; early theory regarding fly-proof varieties of wheat; two generations; feeding habits of "maggot"; control measures.

HAYHURST, P. (532)
QUACK GRASS (AGROPYRON), A HOST OF THE HESSIAN FLY. Jour. Econ. Ent. 2: 231-234. 1909.
Fly found on quack grass in Massachusetts, experiment in collecting specimens and placing them on wheat; fly bred in grass in Kansas; summary of observations by others on fly in native grasses.

HEADLEE, T. J. (533)
REPORT OF THE ENTOMOLOGIST. Kans. Agr. Expt. Sta. Ann. Rpt. 21: xlvi-xlviii. 1908.
Brief account of infestation.

(534)
HESSIAN FLIES. Kans. Farmer 46: 554. 1908.
Stages of development; parasites; control.

(535)
HESSIAN FLY. Kans. Agr. Expt. Sta. Press Bull. 163, 2 pp. 1908. (Also in Kans. Farmer 46: 775, 778. 1908.)
Habits and life history; natural enemies; control.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 43

- HEADLEE, T. J.—Continued. (536)
HESSIAN FLIES. Kans. Farmer 46: 1116. 1908.
Brief reply to inquiry regarding prevention of spread.
- LIFE HISTORIES OF SOME INJURIOUS AND BENEFICIAL INSECTS. HESSIAN FLY. (537)
Kans. Agr. Ed. 1 (3): 12-18, illus. 1909.
Life history and habits; natural checks; control.
- HESSIAN FLY AND GREATER WHEAT STRAW-WORM. Kans. Press Bull. 179: 1 1909. (538)
How to locate work of fly; control.
- TALKS ON HESSIAN FLY. Kans. Farmer 47 (11): 23. 1909. (539)
Review by editor—Loss from fly in Sumner County, Kans.; habits; control.
- HESSIAN FLY AND GREATER WHEAT STRAW-WORM. Kans. Farmer 47 (29): 1, 9. 1909. (540)
Symptoms of fly injury; control.
- INSECTS LIKELY TO INJURE THE WHEAT IN 1910. Kans. Farmer 47 (33): 3. 1909. (541)
Habits and life history of fly; injuries; natural checks; control.
- THE HESSIAN FLY—HOW TO AVOID DAMAGE TO NEXT YEAR'S CROP. Kans. Farmer 50 (24): 2. 1912. (542)
How to identify; habits; control.
- FLIES ARE AT WORK IN WHEAT. Farmer's Mail and Breeze 42 (13): 13. 1912. (543)
Status of fly in Kansas; discussion of various control measures.
- THE TIME WHEN WHEAT SHOULD BE SOWN TO ESCAPE THE FALL BROOD OF HESSIAN FLY. Jour. Econ. Ent. 5: 98-109, illus. 1912. (544)
Table on relation of time of seeding to yield; experiments showing ratio between dates of disappearance of fall brood and latitude; maps on theoretic and actual dates of safe sowing.
- and PARKER, J. B. (545)
THE HESSIAN FLY. Kans. Agr. Expt. Sta. Tech. Bull. 188, pp. 83-138, illus. 1913.
History and distribution; habits and life history; seasonal history; number of broods; natural checks; parasites; injuries; control.
- HESSIAN FLY. N.J. Agr. Expt. Sta. Circ. 46, 8 pp. 1915. (546)
Infestation in northwestern New Jersey; life history; control; table for determining date of safe sowing.
- SOME FACTS RELATIVE TO THE INFLUENCE OF ATMOSPHERIC HUMIDITY IN INSECT METABOLISM. Jour. Econ. Ent. 10: 31. 1917. (547)
Effect of dryness on fly pupae.
- REPORT OF THE [N.J.] DEPARTMENT OF ENTOMOLOGY. pp. 394-395. 1919. (548)
Fly injury during the year.
- HENCEROV, J. W. (549)
THE FIRST GERMAN INVADER, THE HESSIAN FLY. Amer. Coop. Jour. 13: 467, 476, illus. 1918.
Introduction; outwitting the fly; fertilizers; map showing fly-free dates for seeding.

HERRICK, E. C.

(550)

A BRIEF PRELIMINARY ACCOUNT OF THE HESSIAN FLY AND ITS PARASITES.
 [Communicated to the Yale Nat. Hist. Soc. Apr. 28, 1841.] Amer. Jour. Arts and Sci. [Silliman's] 41: 153-158. 1841.

History in United States; origin of name; early investigations; habits; parasites; control.

(551)

OBSERVATIONS COMMUNICATED AT THE REQUEST OF THE HON. H. L. ELLSWORTH—THE HESSIAN FLY. U.S.Commr. Patents Rpt. 1844: 161-167. 1844.

Natural history of fly; descriptions; seasons; parasites; notes from Harris' treatise.

and HARRIS, T. W.

(552)

CORRESPONDENCE [ON HESSIAN FLY]. Boston Soc. Nat. Hist. Occas. Papers 1: 183-207. 1869.

Correspondence touching on several phases of hessian fly and control; Miss Morris' theory and *Ceraphron destructor*.

HERTWIG, R.

(553)

CECIDOMYIA DESTRUCTOR SAY. In Manual of Zoology, Amer. Ed., 2, p. 492. 1905.

Brief general account.

HEWITT, C. G.

(554)

INSECTS INJURIOUS TO FIELD CROPS AND CEREALS IN 1909. Canada Expt. Farms Ann. Rpt 1910: 241-242. 1910.

Injury in Ontario and Saskatchewan.

HESSIAN FLY. Farmer's Advocate and Home Jour. 46: 1515-1516. 1911.

Introduction into Canada; life history; remedial measures.

(555)

INSECTS AFFECTING CEREALS AND FIELD CROPS. Canada Expt. Farms Div. Ent. Rpt. 1914: 861-865. 1915.

Fly in Manitoba, p. 863.

(556)

[LETTER TO CANADIAN MINISTER OF AGRICULTURE.] Canada Expt. Farms Bull. 11: 5. 1915.

Letter transmitting fly report.

(557)

INSECTS AFFECTING GRAIN AND FIELD CROPS, GARDEN AND GREENHOUSE. Canada Dept. Agr. Dominion Ent. Rpt. 1916-17: 9-11. 1917.

Cridle reports fly over wide areas in Manitoba and Saskatchewan, Canada, p. 10.

HICKOCK, H.

(559)

OF THE HESSIAN FLY. Mem. N.Y. Bd. Agr. 2: 169-171. 1823.

Origin; why fly thrives during dry seasons.

HILL, C. C.

(560)

A PRELIMINARY ACCOUNT OF TWO SERPHOID (PROCTOTRYPOID) PARASITES OF THE HESSIAN FLY. Ent. Soc. Wash. Proc. 24: 109-117. 1922.

Distribution, life-history and seasonal-history observations on *Platygaster vernalis* Myers and *Platygaster hiemalis* Forbes; comparison of the two species.

(561)

PLATYGASTER VERNALIS MYERS, AN IMPORTANT PARASITE OF THE HESSIAN FLY. Jour. Agr. Research 25: 31-42, illus. 1923.

Introduction; economic importance; distribution; stages of development; habits; seasonal history; certain ecological considerations.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 45

- HILL, C. C., and SMITH, H. D. (562)
THE RELATION OF HESSIAN FLY DAMAGE TO YIELD. Jour. Econ. Ent. 18: 69-73, illus. 1925.
Discussion of various ways in which fly damages wheat plants and reduces yield.
- PLATYGASTER HIEMALIS, A PARASITE OF THE HESSIAN FLY. Jour. Agr. Research 32: 261-275. 1926.
General biological account of the parasite, with records of its economic importance and seasonal history in the eastern part of United States.
- and SMITH, H. D. (563)
STATUS OF THE PARASITES OF THE HESSIAN FLY, PHYTOPHAGA DESTRUCTOR (SAY), IN PENNSYLVANIA, MARYLAND, AND VIRGINIA. Jour. Agr. Research 36: 151-156. 1928.
Reports on some results of an intensive study of parasites of fly in the eastern part of United States; methods of investigation; data on relative value of given parasites of spring generation in relation to total mortality; hyperparasitism; summary.
- and SMITH, H. D. (564)
HESSIAN FLY IN PENNSYLVANIA. Pa. Dept. Agr. Bull., v. 12, no. 12, 11 pp., illus. 1929.
Description and life history; seasonal history; nature of injury; history of fly in Pennsylvania from 1921-1928; extent of infestation in 1928; control by parasite.
- and SMITH, H. D. (565)
SEASONAL HISTORY AND MORPHOLOGICAL NOTES ON POLYSCELIS MODESTUS GAHAN. Ent. Soc. Wash. Proc. 33: 182-186. illus. 1931.
See also LEIBY, R. W.
- HILL, C. W. (567)
[HESSIAN FLY.] Ohio State Bd. Agr. Ann. Rpt. (1853) 8: 160. 1854.
Injury by fly in Lucas County, Ohio.
- HILL, G. S. J. (568)
ESSAY—ON HESSIAN FLY, WHEAT MIDGE, AND OTHER INSECTS INJURIOUS TO WHEAT CROPS. Upper Canada Bd. Agr. Trans. (1858) 3: 25-72, illus. 1859.
Alarm in England over probability of importing fly in cargoes of wheat from North America, p. 25; general account, p. 26; brief résumé of history in Europe and America, life history, habits, control (rather quaint discussion), parasites, pp. 46-52.
- HIND, H. Y. (569)
HESSIAN FLY. In Essay on Insects and Diseases Injurious to Wheat Crops [Toronto], pp. 38-74, illus. 1857.
History; distribution; description; life history; habits; parasites; remedies.
- HOLDICH, B. (570)
OF THE HESSIAN FLY. Amer. Farmer 6: 172-173. 1824.
General discussion of life history.
- HOLLINGER, A. H.
See HASEMAN, L.
- HOPKINS, A. D. (571)
HESSIAN FLY IN WEST VIRGINIA AND HOW TO PREVENT LOSSES FROM ITS RAVAGES. W.Va. Agr. Expt. Sta. Bull. 67, pp. 239-250, illus. 1900.
General account, with rule for determining time of sowing. First reference to law of latitude and altitude (later bioclimatic law); map and calendar of sowing dates.
- REPORT ON EXAMINATION OF WHEAT STUBBLE FROM DIFFERENT SECTIONS OF THE STATE. W.Va. Agr. Expt. Sta. Bull. 69, pp. 333-344. 1900.
Supplement to West Virginia Agricultural Experiment Station Bulletin 67; tables of reports by counties; miscellaneous notes from correspondents.

HOPKINS, A. D.—Continued.

(573)

PERIODICAL EVENTS AND NATURAL LAW AS GUIDES TO AGRICULTURAL RESEARCH AND PRACTICE. U.S. Monthly Weather Rev. Sup. 9, 42 pp., illus. 1918. (W.B. 643.)

Comprehensive technical discussion of Hopkins' bioclimatic law, with detailed application to fly control.

(574)

THE BIOCLIMATIC LAW AS APPLIED TO ENTOMOLOGICAL RESEARCH AND FARM PRACTICE. Sci. Monthly 8: 509-513. 1919.

General discussion of application of bioclimatic law to fly control; relation of law to farm practice. Isophanal maps and calendar of wheat seed-ing dates.

(575)

THE BIOCLIMATIC LAW. Jour. Wash. Acad. Sci. 10: 34-40. 1920.

Discussion of application of law to fly control.

HOPKINS, I.

(576)

WHITE FLINT WHEAT. Amer. Farmer 7: 155. 1825.

A report on the qualities of the white flint, and closing with an advertisement for sale of seed wheat.

HOPLEY, S.

(577)

HESSIAN FLY. Ohio Bd. Agr. Ann. Rpt. (1861) 16: 103. 1862.

Injury by fly in Crawford County, Ohio, in 1861.

HOUSER, J. S.

(578)

THE WHEAT JOINTWORM. Ohio Agr. Expt. Sta. Bull. 226: 175. 1911.

Injury by fly and by wheat jointworm compared.

(579)

HESSIAN FLY IN 1927. Ohio Agr. Expt. Sta. Bimo. Bull. 12 (5) (whole no. 128): 139-142, illus. 1927.

Summary of infestation survey in 38 Ohio counties, with brief discussion of multiplication of parasites and of weather conditions.

(580)

WHEAT FIELD SURVEY. Ohio Agr. Expt. Bimo. Bull. 152: 163-167, illus. 1931.

(581)

THE WHEAT FIELD INSECT SURVEY, 1933. Ohio Agr. Expt. Sta. Bimo. Bull. 18 (164): 119-122. 1933.

See also GOSSARD, H. A.

HOWARD, C. W.

(582)

THREE IMPORTANT INSECT PESTS. Jour. Econ. Ent. 9: 236. 1916.

Note on outbreak of fly near Minneapolis, Minn.

HOWARD, L. O.

(583)

NOTICE OF AN OMISSION FROM LECONTE'S EDITION OF THOMAS SAY'S WRITINGS. Psyche 4: 206. 1884.

Quotes note omitted from LeConte's edition; disagrees with theory of Say on shedding of wings by *Ceraphron destructor*.

(584)

THE CHINCH BUG. U.S. Dept. Agr., Div. Ent. Bull. 17: 6. 1888.

Confusion of hessian fly with chinch bug in North Carolina.

(585)

INSECT FOES OF AMERICAN CEREAL GRAINS, WITH MEASURES FOR THEIR PREVENTION OR DESTRUCTION. [Abstract] Canad. Ent. 25: 268. 1893.

Brief résumé.

(586)

THE IMPORTED PARASITE OF THE HESSIAN FLY. Insect Life 7: 356-357. 1895.

Figure of *Semiotellus nigripes* and review of attempt to introduce it; figure said by Enock to be incorrect.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 47

HOWARD, L. O.—Continued.

(587)

APPARENT SUCCESS OF ONE OF THE HESSIAN FLY PARASITE IMPORTATIONS.
Insect Life 7: 414–415. 1895.

Apparently successful introduction of *Semiotellus nigripes* at Cecilton, Md.

THE IMPORTED PARASITE OF THE HESSIAN FLY. Insect Life 7: 356–357,
illus. 1895.

Note on introduction of parasite, *Entedon epigonus* Walker.

(588)

[DISCUSSION ON PAPER READ BY JOHN B. SMITH AT 7TH ANNUAL MEETING,
AMERICAN ASSOCIATION ECONOMIC ENTOMOLOGISTS.] U.S.Dept.Agr., Div.
Ent. Bull. (n.s.) 2: 36. 1895.

Fly infestation in 1895.

REPORT OF THE [U.S.] ENTOMOLOGIST. U.S.Dept.Agr. Ann. Rpt., 1897:
116; 1898: 20.

(589)

[REVIEW OF] LES CECIDOMYIES DES CEREALES ET LEURS PARASITES, BY PAUL
MARCHAL. Ann. Soc. Ent. France 64: 1–105, illus. 1897. (Sci. (n.s.) 7:
246–248. 1898.)

Comprehensive review, discussing comparative biology in Europe and America of fly and related species and certain parasites; detailed discussion of post-embryonic development of *Trichacis remulus*; observations on *Polygnotus minutus*.

THE INSECT BOOK. New York, Doubleday, Page & Co., 429 pp., illus.
1901.

Brief popular account of hessian fly, pp. 80, 113–114.

(590)

HESSIAN FLY INVESTIGATIONS. U.S.Dept.Agr., Bur. Ent. Rpts., 1905, 1906,
1907, 1908.

(591)

Distribution in the southern and the western part of the United States; wheat-sowing experiments to determine date of sowing wheat; investigations of fly in spring-wheat regions; introduction of parasites. (Rpt. 1905, pp. 290–291.) Investigations checked; wheat-sowing experiments; meteorological conditions; fly in spring-wheat regions; parasites. (Rpt. 1906, pp. 18–20.) Wheat-sowing experiments increased; parasite (*Polygnotus*) of material aid in control (Rpt. 1907, p. 24); wheat-sowing experiments continued; further experiments on colonization of parasites (Rpt. 1908, p. 24).

REPORT OF THE [U.S.] ENTOMOLOGIST. U.S.Dept.Agr. Ann.Rpts. 1909–22,
1925–26.

(592)

Fly outbreak and wheat-sowing experiments in southern Kansas, report for 1909, p. 28; introduction of parasites from Kansas into Oregon, outbreak in Tennessee, studies of host grasses, report for 1910, p. 26; studies of parasites in Washington and Oregon, effect of humidity, injury in East, report for 1911, p. 25; brief report on season's work, report for 1912, p. 28; investigation of fly in progress, report for 1913, p. 237; summary of conditions and of the Bureau's activities during year, report for 1915, p. 11; outbreak in Missouri, Kansas, Oklahoma, Nebraska, and Indiana, development of partial generations, report for 1916, pp. 12–13; review of season's work on fly, report for 1916, pp. 224–225; discussion of outbreak of 1914–16 in United States, control, distribution records, special investigation in certain States, report for 1917, pp. 11–12; status in 1917, cooperative work, new experimental plats, control campaign, report for 1918, pp. 7, 16; results of annual spring survey, increase in West, report for 1919, p. 2; status in various sections of United States, cooperative campaign, new publication on control, Hopkins' bioclimatic law in relation to fly control, report for 1920, pp. 4, 20; cooperative work reduces losses by fly in winter wheat belt, report for 1921, p. 3; and infestation of 1920–21 reduced, progress in parasite studies, report for 1922, pp. 308–309; slight loss during past year, report for 1925, p. 13; brief résumé of investigations, report for 1926, p. 12.

HOWARD, L. O.—Continued.

(595)
CEREAL AND FORAGE CROP INSECT INVESTIGATIONS. U.S. Dept. Agr., Bur. Ent. Ann. Rpt. 1924: 10. 1924.(596)
RETARDED ESTABLISHMENT OF INTRODUCED PARASITES OF INJURIOUS INSECTS. Natl. Acad. Sci. Proc. 10 (1): 16–18. 1924.Discussion of retardation of spread of parasite *Pleurotropis epigonus* Walk.

See also RILEY, C. V.

HOWELL, R.

(597)
ON THE WHEAT FLY AND ITS RAVAGES. Amer. Assoc. Adv. Sci. Proc. (1853) 7: 179–181. 1856.

Life history; destruction of larvae by American goldfinch.

HUDSON, H. F.

(598)
HESSIAN FLY IN WESTERN ONTARIO. Farmer's Advocate and Home Mag. 55: 8. illus. 1920.

Outbreak in western Ontario in 1919; control.

(599)
HESSIAN FLY OR WHEAT, WHICH? Farmer's Advocate and Home Mag. 55: 1349–1350. illus. 1920.

Description; control.

(600)
WHEAT, CLOVER, AND THE HESSIAN FLY. Farmer's Advocate and Home Mag. 55: 1485. 1920.

Spraying for control disapproved; fertilizing discussed.

(601)
HESSIAN FLY—THE ENEMY OF THE WHEAT CROP. Farmer's Advocate and Home Mag. 55: 1521. illus. 1920.

Life history.

(602)
THE PRESENT STATUS OF THE HESSIAN FLY IN WESTERN ONTARIO. Ent. Soc. Ontario, Rpt. 51: 32–34. 1921.

Outbreak in western Ontario; report on fly-free date experimental plantings; stages and life history; control.

HUNTER, D.

(603)
LETTER FROM DAVID HUNTER, OF SULLIVAN, ON THE HESSIAN FLY. Mem. N.Y. State Bd. Agr. 3: 55–56. 1826.

Time of appearance of flies.

HUNTER, S. J.

(604)
ELEMENTARY STUDIES IN INSECT LIFE. 344 pp., illus., Topeka, Kans. 1902.
Brief account of hessian fly, p. 330.(605)
CAN WHEAT BE GROWN IN KANSAS WITHOUT LOSSES FROM CROP-DESTROYING INSECTS. Kans. State Bd. Agr. Quart. Rpt. 39 (155): 257–259. 1920.

Popular résumé; control of fly by late seeding.

HUNTER, W. D.

(606)
AMERICAN INTEREST IN MEDICAL ENTOMOLOGY—HESSIAN FLY. Jour. Econ. Ent. 6: 36. 1913.

Note on loss by fly in United States.

HUSTED, D. B.

(607)
HESSIAN FLY. Ohio Farmer 99 (21): 441. 1901.
Comments on Professor Webster's experiments with parasites of fly; discusses possible value of fertilizers.(608)
HESSIAN FLY OBSERVATIONS. Ohio Farmer 99 (25): 515. 1901.

Supplements preceding reference on value of parasites in fly control; additional discussion of value of fertilizers.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 49

- HUTCHINGS, C. B. (609)
REPORT OF INSECTS FOR THE YEAR 1927. Ent. Soc. Ontario, Ann. Rpt. (1927) 58: 7-9. 1928.
Report of light infestation in Middlesex County.
- HUTCHINSON, JAMES. See JEFFERSON, T.
- HYSLOP, J. A. (610)
HESSIAN FLY (PHYTOPHAGA DESTRUCTOR SAY). U.S. Dept. Agr., Dept. Bull. 1103: 9-11. 1922.
Decline of outbreak; report of infestation throughout United States.
-
- INSECT PEST SURVEY BULLETIN. See Introduction to this bibliography, p. 2.
- IMMS, A. D. (611)
A GENERAL TEXTBOOK OF ENTOMOLOGY, INCLUDING THE ANATOMY, PHYSIOLOGY, DEVELOPMENT AND CLASSIFICATION OF INSECTS. Ed. 2, 703 pp., illus. London. 1930.
Hessian fly on wheat in Europe, North America, and New Zealand, p. 621.
- INCHBALD, P., and MEADE, R. H. (612)
HESSIAN FLY IN GREAT BRITAIN. Entomologist 20: 169-173, illus. 1887.
Origin in Europe; distribution in America; description.
-
- CLIMATE AND INJURIOUS INSECT INVESTIGATIONS. Kans. Agr. Expt. Sta. Rpt. 1916-17: 15-16. 1918.
Résumé of studies on influence of temperature and moisture on life history of fly.
- JEFFERSON, T., BARTON, B. S., HUTCHINSON, J., and WISTAR, C. (614)
HESSIAN-FLY. Amer. Mus. (Matthew Carey's) 11: 285-287. 1792.
Resolutions passed "At a meeting of the committee by the American Philosophical Society for the purpose of collecting and communicating to the society materials for forming the natural history of the insect called the hessian fly, as also information of the best methods of preventing or destroying the insect," etc.
- JENKS, A. E. (615)
HESSIAN FLY. Amer. Thresherman 3 (9): 42-43, illus. 1901.
General account; history; distribution in United States; spread; life history; host plants; parasites; control.
- JACKSON, C. F. See SANDERSON, E. D.
- JACOBS, J. See VAUX, J.
- JARDINE, W. M., and CALL, L. E. (616)
HOW TO GROW WHEAT IN KANSAS. Kans. Agr. Expt. Sta. Bull. 176: 23-24. 1911.
Brief popular discussion of fly control.
-
- ENTOMOLOGY. Kans. Agr. Col. Rpt. 1914-15: 32. 1915.
Brief report on "Hessian fly special" train operated cooperatively with Atchison, Topeka & Santa Fe Railway.
- JOHNSON, B. P. (618)
WHEAT MIDGE, HESSIAN FLY, ETC. N.Y. State Agr. Soc. Trans. 18: 287-303. 1858.
Circular inquiries, with replies concerning the ravages of fly and other predators on wheat.
- JOHNSON, J. (619)
HESSIAN FLY. Ohio Bd. Agr. Ann. Rpt. 7 (1852): 367. 1853.
Injury by fly in Union County, Ohio, in 1851.
- JOHNSON, W. G. (620)
NOTES FROM MARYLAND ON THE PRINCIPAL INJURIOUS INSECTS OF THE YEAR.
U.S. Dept. Agr., Div. Ent. Bull. (n.s.) 17: 94. 1898.
Brief report on infestation and losses.

JOHNSON, W. G.—Continued.

REVIEW OF ENTOMOLOGICAL FEATURES OF 1896. Md. Agr. Expt. Sta. Bull. 57: 6. 1898.

Counties enumerated having injury by fly.

HESSIAN FLY IN MARYLAND. Md. Agr. Expt. Sta. Bull. 58: 117-122. 1898.

Importance; distribution; appearance in Maryland; description and life history; habits; effects in wheat; natural enemies; control.

ANSWERS TO QUERIES AND NOTES ON INSECTS INJURIOUS IN MILLS, XXIII. Amer. Miller 26 (11): 844-845, illus. 1898.

Reply to correspondent who had sent samples of wheat from Missouri containing fly; brief popular discussion; control.

MISCELLANEOUS ENTOMOLOGICAL NOTES. U.S. Dept. Agr., Div. Ent. Bull. (n.s.) 20: 65. 1899.

Mentions abundance of fly in western Maryland.

HESSIAN FLY AND FALL WORK. Amer. Agr. 68 (8): 174, illus. 1901.

Popular résumé: life history; control.

JOHNSTON, J.

NOTES ON INSECTS OF THE YEAR. Ent. Soc. Ontario Ann. Rpt. (1901) 32: 27. 1902.

Mention of fly as injurious in Hamilton District, Ont.

JONES, E. S.

HESSIAN FLY. Prairie Farmer 86: 610. 1914.

Stages of development; control.

JORDAN, S. M.

HESSIAN FLY. Mo. State Bd. Agr. (Yearbook) Ann. Rpt. 48: 368-369. 1916.

Brief popular account; stresses cooperation in control.

KEATH, J. I. See HASEMAN, L.

KELLNER, E.

REPORT ON GRAINS 1892. Calif. Agr. Expt. Sta. Rpt. 1891-92: 138-144. 1892.

Tabular report of infestation in various varieties of wheat.

KELLOGG, V. L.

KANSAS NOTES. Insect Life 5: 114-115. 1892.

Notes on abundance, and life history.

KELLY, E. O. G.

STUDIES OF THE DEVELOPMENT OF EUPELMUS ALLYNII FRENCH AND STICTONOTUS ISOSOMATIS RILEY. Jour. Econ. Ent. 3: 202, 204. 1910.

Discussion of life history and brief description of various stages of these parasites.

A NEW WHEAT THRIPS. Jour. Agr. Research 4: 222. 1915.

Mention of hessian fly with *Prosopothrips cognatus* Hood.
See also DEAN, G. A., et al.; WEBSTER, F. M.

KELLY, E. G.

HAVE YOU SEEN THE HESSIAN FLY? Kans. Agr. Col. Ext. X-Form 48, 1 p. 1918.

Scarcity of fly; control through fly-free dates in sowing.

HOW THE FARMER CAN DETECT THE HESSIAN FLY IF PRESENT IN HIS WHEAT THIS FALL. Kans. Agr. Col. Ext. X-Form 59, 1 p., illus. 1918.

Brief popular account.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 51

KELLY, E. G.—Continued.

(635)

HESSIAN FLY—SUMMER OF 1920. Kans. Agr. Col. Ext. X-Form 158, 2 pp. illus. 1920.

Where to find fly during different months; control, with map of fly-free dates.

(636)

AN EXAMPLE OF EXTENSION METHODS AND RESULTS IN KANSAS ENTOMOLOGY. Jour. Econ. Ent. 18: 177–181. 1925.

Summary of wheat situation in Kansas since 1916 with special reference to fly control; first recorded outbreak in 1871.

(637)

CONTROLLING CROP INSECTS. Kans. Agr. Expt. Sta. Ext. Bull. 62: 10–14, illus. 1929.

Popular résumé; character of injury; stages; control; life history.

(638)

TO AVOID FLY DAMAGE. Kans. Farmer 67 (28): 10. 1929.

Brief direction for control in Wheat Belt.

See also SMITH, R. C.

KING, K. M.

(639)

FIELD CROP INSECT CONDITIONS IN SASKATCHEWAN, 1922–27. Ent. Soc. Ontario, Ann. Rpt. (1927) 58: 50–51. 1928.

Report of injury.

KIRBY, W.

(640)

HISTORY OF *TIPLA TRITICI*, AND *ICHNEUMON TIPLUA*, WITH SOME OBSERVATIONS UPON OTHER INSECTS THAT ATTEND THE WHEAT, IN A LETTER TO THOMAS MARSHAM. (Read February 6, 1798.) Linn. Soc. London Trans. 4: 230–239. 1798.Relates observations on hatching of *Tipula* and *Ichneumon*, and gives technical description of each; observation on *Ichneumon* depositing egg in caterpillar of wheat fly; comparison of damage done to white and red wheats by larvae of fly; determination not certain.

(641)

A CONTINUATION OF THE HISTORY OF *TIPLA TRITICI*, IN A LETTER TO THOMAS MARSHAM, ESQ. (Read February 5, 1799.) Linn. Soc. London Trans. 5: 96–111, illus. 1800.Observations on life history of hessian fly; description of attack of parasite (*Ichneumon*) on fly; technical description of *Tipula* and *Ichneumon*; determination not certain.

(642)

SOME ACCOUNT OF THE HESSIAN FLY. Mag. Nat. Hist. [London] 1: 227–228, illus. 1829.

Classification; brief description of male and female; habits of *Ceraphron destructor*.

and SPENCE, W.

(643)

INTRODUCTION TO ENTOMOLOGY: OR ELEMENTS OF THE NATURAL HISTORY OF INSECTS. Ed. 4, v. 1, 513 pp., illus. London. 1822.

Relates alarm in British Isles lest fly be imported in cargoes of wheat from North America, pp. 50–51; records fear in England that insect discovered on wheat might prove to be hessian fly; brief account of early history and spread, pp. 170–171. (Ed. 6, [one v.], 600 pp., illus. Philadelphia. 1846. [hessian fly, pp. 126–127]; ed. 7, 607 pp. London. 1856. [hessian fly, pp. 91–92]).

KIRK, T. W.

(644)

HESSIAN FLY, *CECIDOMYIA DESTRUCTOR* SAY. New Zealand Dept. Agr. Leaflet 1, 2 pp., illus. [1892 (?)].

Popular résumé of host plants; injury; control.

(645)

REPORT OF THE ACTING BIOLOGIST. New Zeal. Dept. Agr., Rpt. 2: 81–87, illus. 1894.

Life history; control; history in New Zealand; details of specific outbreaks; natural enemies.

- KIRK, T. W.—Continued. (646)
 HESSIAN FLY. New Zeal. Dept. Agr. Rpt. 1900 (Appendix VII): 303. 1900.
 Injury by fly in "several southern districts."
- KIRKPATRICK, J. (647)
 NOTES ON A FEW OF THE INSECTS OF NORTHERN OHIO INJURIOUS TO THE FARMER OR HORTICULTURIST. Ohio State Bd. Agr. Ann. Rpt. 10: 243. 1855.
 Injury by fly.
- KLIPPERT, J. H. (648)
 THE WHEAT PLANT, ITS ORIGIN, CULTURE, GROWTH, DEVELOPMENT, COMPOSITION, VARIETIES, DISEASES. 706 pp., illus. Cincinnati. 1860.
 General popular account of fly; stresses control, pp. 608–614.
- KOEBELE, A. (649)
 HESSIAN FLY IN CALIFORNIA. Insect Life 2: 252. 1889.
 Outbreak in central part of State and in the Santa Cruz Mountains; parasites.
-
- REPORT ON CALIFORNIA INSECTS. U.S. Dept. Agr., Div. Ent. Bull. 22: 93. 1890.
 Occurrence of fly in central California and in Santa Cruz Mountains; brief note on parasite (*Merisus destructor*); puparia found on several species of grass.
- L., A. E. (650)
 OUTWITTING THE HESSIAN FLY AND SAVING THE WHEAT CROP OF 1921. Ind. Farmer's Guide 32: 1576, 1592. 1920.
 Loss in Indiana in 1920; control by late sowing and fertilizing.
- L., B. (651)
 CECIDOMYIA. Farmers' Cabinet 5: 235. 1841.
 Criticism on observations by Miss Morris.
- L., J. A. (652)
 HESSIAN FLY. Country Gent. 37: 376. 1872.
 Note identifying fly.
- LABOULBÈNE, A. (653)
 SUR LES MÉTAMORPHOSES DE LA CECIDOMYIA DESTRUCTROR SAY, ET SUR LE PUPARIUM OU L'ENVELOPPE DE SA LARVE AVANT LA TRANSFORMATION EN CHRYSALIDE. Compt. Read. Acad. Sci. [Paris.] 119 (4): 297–300. 1894.
 Technical discussion of metamorphosis; fly encysts itself; chemical substance.
- LANGDON, L. (654)
 [HESSIAN FLY.] Ohio State Bd. Agr. Ann. Rpt. (1853) 8: 108. 1854.
 Injury to wheat by fly in Defiance County, Ohio.
- LANGFORD, G. S. See LIST, G. M.
- LARRIMER, W. H. (655)
 TO OVERCOME HESSIAN FLY MENACE TO 1921 WHEAT, SOW ONLY ON FLY-FREE DATES. Ind. Farmers' Guide 32 (36): 3, illus. 1920.
 Brief popular presentation of recommended control.
-
- HESSIAN FLY IN INDIANA. Ind. Agr. Expt. Sta. Circ. 95 (rev.), 8 pp., illus. 1920.
 Economic importance; two broods; brief description; life history; food plants; control.
-
- REPORT ON BEST DATE FOR WHEAT. Shelby Co. [Ind.] Farm Bureau News 1: 2. Aug. 1920. (656a)
 Discusses results of date-for-sowing experiments near Shelbyville for three-year period; recommendations.

LARRIMER, W. H.—Continued.

(658)

AN EXTREME CASE OF DELAYED FALL EMERGENCE OF HESSIAN FLY (PHYTOPHAGA DESTRUCTOR SAY). Ann. Ent. Soc. Amer. 15: 177-180, illus. 1922.

Studies of pupation and delayed emergence in 1920-21 due to extreme variations of temperature and rainfall in sections of Illinois, Indiana, and Ohio.

(659)

APPLICATION OF STATISTICAL METHODS TO THE DETERMINATION OF ABUNDANCE OF AND DAMAGE BY HESSIAN FLY. Jour. Econ. Ent. 17: 202-214. 1924.

Abundance of fly; damage; theory of probability.

(660)

BEHAVIOR OF PHYTOPHAGA DESTRUCTOR SAY UNDER CONDITIONS IMPOSED BY EMERGENCE CAGES. Jour. Agr. Research 31: 567-574, illus. 1925.

Introduction; emergence cages; discussion; practical application.

— and CARTWRIGHT, W. B.

(661)

DETERMINATION OF THE PERCENTAGE OF INFESTATION BY THE HESSIAN FLY (PHYTOPHAGA DESTRUCTOR SAY). Jour. Agr. Research 32: 1041-1044. 1926.

Introduction; the problem; discussion; conclusions.

— and NOBLE, W. B.

(662)

DETERMINATION OF THE PERCENTAGE OF PARASITISM OF THE HESSIAN FLY, PHYTOPHAGA DESTRUCTOR SAY. Jour. Agr. Research 32: 1049-1051. 1926.

Introduction; the problem; discussion; conclusions.

FARMERS GUARD AGAINST HESSIAN FLY. Miller's Rev. 93 (11): 22. 1929.

Popular résumé originally given by radio August 23, 1929.

(663)

HESSIAN FLY CONTROLLED. Nebr. Union Farmer 16 (11): 8. 1929.

Interview discussing briefly control by late wheat seeding.

(664)

SYMPOSIUM: THE EFFECT OF THE 1930 DROUGHT UPON INSECT POPULATION. THE EFFECT ON CEREAL CROP INSECTS. Jour. Econ. Ent. 24: 651-653. June 1931

Résumé; infestation low.

(665)

WHEAT IS ATTACKED BY INSECTS AT EACH STAGE IN LIFE OF THE PLANT. U.S. Dept. Agr. Yearbook 1933: 169-170. 1933.

— and PACKARD, C. M.

(666)

HESSIAN FLY CONTROL IN INDIANA. Ind. Agr. Expt. Sta. Circ. 167, 12 pp., illus. 1929.

See also CARTWRIGHT, W. B.; McKINNEY, H. H.

LARSON, A. O.

(667)

THE HOST SELECTION PRINCIPLE AS APPLIED TO BRUCHUS QUADRIMACULATUS FAB. Ann. Ent. Soc. Amer. 20: 37-79. 1927.

Comparative ecological notes on hessian fly and other insects.

LAUDE, H. H. See SALMON, S. C.

LEE, D. (ed.)

(668)

AGRICULTURAL REPORT FOR JUNE. Genesee Farmer (2) 7: 151-152. 1846.

Damage from fly in western New York.

(669)

HESSIAN FLY (CECIDOMYIA DESTRUCTOR). Genesee Farmer (2) 8: 205. 1847.

Brief note on life cycle and control.

(670)

EXPERIMENTS IN WHEAT CULTURE. Genesee Farmer (2) 8: 234. 1847.

Brief reply to letter of subscriber, contrasting habits of *Cecidomyia tritici* and *Cecidomyia destructor*.

(671)

- LEE, D. (ed.)—Continued. (672)
 INTRODUCTORY REMARKS [TO REPORT OF THE COMMISSIONER OF PATENTS, 1849].
 Commr. Patents Rept. [pt. 2, Agr.] 1849: 6–13, 1850. (Also issued as
 31st Cong., 1st sess., House Ex. Doc. 20, pp. 6–13. 1849.)
 General survey of agriculture in United States for 1849, including discussion
 of injury by fly and other pests.
- LEIBY, R. W. and HILL, C. C. (673)
 THE TWINNING AND MONEMBRYONIC DEVELOPMENT OF PLATYGASTER HIEMALIS,
 A PARASITE OF THE HESSIAN FLY. Jour. Agr. Research 25: 337–350,
 illus. 1923.
 Introduction; relation of parasites to host; stages of development; summary;
 bibliography.
- and HILL, C. C. (674)
 THE POLYEMBRYONIC DEVELOPMENT OF PLATYGASTER VERNALIS. Jour. Agr.
 Research 28: 829–839, illus. 1924.
 Relation of parasite to host; development of stages of parasite body in
 host larva.
- (675)
 THE ORIGIN OF MIXED BROODS IN POLYEMBRYONIC HYMENOPTERA. Ann. Ent.
 Soc. Amer. 19: 290–299. 1926.
 General discussion; report on studies of five species; summary and dis-
 cussion; bibliography.
- (676)
 POLYEMBRYONY IN INSECTS. Fourth Internat'l. Cong. Ent., v. 2, pp. 873–887.
 1929.
 General discussion of polyembryony; report on studies of *Platygaster*
hiemalis, *P. variabilis*, *P. vernalis*, *Copidosoma gelechiae*, *C. truncatellum*,
C. thompsoni, and *C. boucheanum*; origin of polyembryony; asexual larvae;
 sex ratio; structure of pupal chambers; summary.
- LE SUEUR, C. A. (677)
 [ILLUSTRATIONS OF CECIDOMYIA DESTRUCTOR, CERAPHRON DESTRUCTOR, AND
 PORTIONS OF INFESTED WHEAT STALKS.] Jour. Acad. Nat. Sci. Phila.
 1: 64. 1817.
 Explanation of plate (by Thomas Say).
 See also SAY, T.
- LEWIS, A. C., CHASE, W. W., and TURNER, W. F. (678)
 SPRAY CALENDAR. Ga. State Bd. Ent. Bull. 53: 17. 1919.
 Safe sowing date between October 20 and 30.
 See also SMITH, R. I.; WORSHAM, E. L.
- LINTNER, J. A. (679)
 HESSIAN FLY. Cult. and County Gent. 37: 376. 1872.
 Reply to correspondent identifying fly.
- (680)
 [HESSIAN FLY.] N.Y. State Mus. Ann. Rpt. 30, Ent. Contrib. 4: 134. 1878.
 Note.
- (681)
 HESSIAN FLY. Cult. and Country Gent. 43: 55. 1878.
 Identification of fly in wheat roots, with brief general account.
- (682)
 HESSIAN FLY. Country Gent. 45: 439. 1880.
 Identified from Newbern, Va., with brief discussion on development and
 control.
- (683)
 REMEDIES FOR INSECT DEPREDATIONS. N.Y. State Ent. Ann. Rpt. 1: 56–63,
 illus. 1882.
 Note on burning stubble for control of fly, p. 58.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 55

- LINTNER, J. A.—Continued. (684)
PREVENTIVES OF INSECT DEPREDATIONS. N.Y. State Ent. Ann. Rpt. 1: 63–65, illus. 1882.
Hessian fly not found in Lancaster or Fultz wheat, p. 63.
- HESSIAN FLY IN OHIO. Country Gent. 47: 567. 1882. (685)
Note identifying fly, with slight information on habits, number of broods, and parasites.
- [HESSIAN FLY.] N.Y. State Ent. Rpt. 2: 125, 151, 226. 1885. (686)
Summary of article in Country Gent., v. 47, p. 567.
- INSECT ATTACKS AND MISCELLANEOUS OBSERVATIONS. N.Y. State Mus. Nat. Hist. Ann. Rpt. 39: 103–104. 1885. (687)
Infestation in New York; control.
- AN UNKNOWN GRASS PEST. N.Y. State Mus. Nat. Hist. Ann. Rpt. 40: 96–98. 1886. (688)
Grass attacked by an insect which produces an effect similar to that of the fly in wheat.
- INSECT ATTACKS AND MISCELLANEOUS OBSERVATIONS. N.Y. State Ent. Rpt. 1886: 149. 1887. (N.Y. State Mus. Nat. Hist. Ann. Rpt. 41.) (689)
Comparison with joint worm; burning straw destroys parasites.
- [HESSIAN FLY.] N.Y. State Ent. Ann. Rpt. 4 (N.Y. State Mus. Nat. Hist. Rpt. 41): 11, 29, 33. 1888.
Brief report; losses occasioned in western New York; location of larva in straw; destruction of parasites through burning of stubble.
- INSECT ATTACKS AND MISCELLANEOUS OBSERVATIONS. N.Y. State Ent. Rpt. 5: 263–264, 286, illus. 1889. (From N.Y. State Mus. Nat. Hist. Ann. Rpt. 42.) (690)
Brief report on examination of "flax seeds"; infestation in New York State.
- [HESSIAN FLY.] N.Y. State Ent. Rpt. 8: 122, 1892. (N.Y. State Mus. Ann. Rpt. 45); N.Y. State Mus. Rpt. 46: 426, 1893. (691)
Mention of disappearance (N.Y. State Mus. Rpt. 45); note on origin (Rpt. 46).
- LIST, G. M., and LANGFORD, G. S. OCCURRENCE OF HESSIAN FLY IN COLORADO. Jour. Econ. Ent. 20: 740. 1927. (693)
First record from Colorado; estimates of infestation and injury.
- LLOYD, E. LAWLER WHEAT. Amer. Farmer 1: 141. 1819. (694)
Notes on resistant qualities of Lawler wheat.
- LOCHHEAD, W. REPORT OF PROFESSOR OF BIOLOGY AND GEOLOGY. Ontario Agr. Col. and Expt. Sta. Ann. Rpt. 26: 14–15, illus., 1900; 29: 32, 1904. (695)
Enumerates counties where fly is prevalent; recommends trap strips (Rpt. 26); little injury by fly in Ontario (Rpt. 29).
- INSECTS OF THE SEASON OF 1900. Ent. Soc. Ontario, Ann. Rpt. (1900) 31: 74, 1901; 33: 64, 1903; 34: 31, 1904. (696)
Report of injury in 1900 (Rpt. 31); very little damage from fly in Ontario in 1902 (Rpt. 33); little injury, and value of late sowing (Rpt. 34).

LOCKHEAD, W.—Continued.

(697)
INJURIOUS INSECTS OF THE SEASON OF 1901. Ent. Soc. Ontario, Ann. Rpt. (1901) 32: 43. 1902.

Report of injury in Ontario; control.

(698)
HESSIAN FLY IN ONTARIO. Ontario Agr. Col. and Expt. Farm Bull. 116: 9-16, illus. 1901.

Early history in Ontario; losses from; life history; parasites; insects sometimes mistaken for fly; food plants; control; flyproof varieties of wheat; cooperation of farmers.

(699)
A SYNOPSIS OF ECONOMIC ENTOMOLOGY. 113 pp. Published by author. Ste. Anne de Bellevue. 1914.

Very brief account for students; brief discussion of control, p. 105.

(700)
INSECT PESTS OF CEREAL CROPS OF QUEBEC. Quebec Soc. Protect. Plants Ann. Rpt. (1915-16) 8: 101-115. 1916.

Injury by fly in Quebec.

(701)
A FEW NOTES ON THE ECOLOGY OF INSECTS. Ent. Soc. Ontario, Ann. Rpt. (1917) 48: 88, 90. 1918.

Enumerates varieties of wheat injured by fly; moist air favors development.

(702)
[HESSIAN FLY.] In Class Book of Economic Entomology, pp. 39, 59, 60, 71, 245. 1919.

Mention of losses; relation to humidity; distribution; character of injury; general account.

LUGGER, O.

(703)
[HESSIAN FLY.] Minn. Agr. Expt. Sta., Div. Ent. Bull. 28: 107, illus. 1893.
Brief note.(704)
INSECTS INJURIOUS IN 1895. Minn. Agr. Expt. Sta., Div. Ent. Bull. 43: 213-215, illus. 1895. (Reprinted in Minn. State Ent. Ann. Rpt. 1: 117-119.)

Brief note on life history; remedies.

(705)
INSECTS INJURIOUS IN 1896—THE HESSIAN FLY (CECIDOMYIA DESTRUCTOR SAY). Minn. Agr. Expt. Sta., Div. Ent. Bull. 48: 39-42, illus. 1896.

Appearance in Minnesota; double-brooded in South, single-brooded in North; parasites; control.

(706)
HESSIAN FLY (CECIDOMYIA DESTRUCTOR SAY). Minn. Agr. Expt. Sta. Ann. Rpt. 2 Ent.: 11-14, illus. 1896.
Record of injuries; habits; parasites.(707)
HESSIAN FLY. Minn. Agr. Expt. Sta. Bull. 64: 551-557, illus. 1899.
Occurrence in Minnesota; life history; remedies; parasites.

LUGINBILL, P.

(708)
CEREAL AND FORAGE INSECT WORK. (HESSIAN FLY.) S.C. Commr. Agr. Com., and Indust. Ann. Rpt. (1918) 15: 114-115. 1919.

“Authentic report” of injury by fly to wheat in “upper counties of the State”; often confused with green bug; brief discussion of life history and habits.

(709)
[HESSIAN FLY (MAYETIOLA DESTRUCTOR SAY).] S.C. Commr. Agr., Com., and Indust. Ann. Rpt. 16: 218-219. 1920.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 57

- LYMAN, H. H. (710)
 PRESIDENT'S ANNUAL ADDRESS. Ent. Soc. Ontario, Ann. Rpt. (1899) 30: 31, illus.
 Injury by fly in Ontario and Manitoba.
- M. (711)
 [LETTER] TO THOMAS G. KENNEDY, ESQ., SECRETARY OF THE AGRICULTURAL SOCIETY OF BUCKS COUNTY. Mem. Phila. Soc. Prom. Agr. 5: 153. 1826.
 Three generations of fly.
- MACAY, A. H. (712)
 ADDRESS. Ent. Soc. Nova Scotia Proc. no. 2, pp. 7-9. 1917.
 Annual damage by fly in United States estimated at \$40,000,000.
- McBRIDE, O. C. See HASEMAN, L.
- MCCARTHY, G. (713)
 HESSIAN FLY—CECIDOMYIA DESTRUCTOR. N.C.Agr.Expt.Sta. Bull. 78: 19-20, illus. 1891.
 Origin and habits; remedies.
- SOME BENEFICIAL INSECTS. N.C.Agr.Expt.Sta.Bull. 78: 31. 1891. (714)
 Note on fly parasite, *Semiotellus destructor*.
- OUR COMMON INSECTS. N.C.Agr.Expt.Sta.Bull. 100: 200-201. illus. 1894. (715)
 Note.
- PESTS OF WHEAT. N.C.Agr.Expt.Sta.Bull. 128: 154-155. 1896. (716)
 Brief description of and remedies for fly.
- HESSIAN FLY, CECIDOMYIA DESTRUCTOR SAY. N.C.State Bd. Agr. Bull. 21 (6): 14-16. 1900. (717)
 Popular résumé.
- M'CLELLAND, H. (718)
 HESSIAN FLY. [LETTER] TO THE EDITOR OF THE AMERICAN FARMER. Amer. Farmer 2: 234-235. 1820.
 Reports early appearance of fly at Richmond, Va.; spread, 1801-1805; compares habits of fly with habits of locust.
- McCOLLOCH, J. W. (719)
 WHEAT IS DAMAGED BY THE FLY. IT IS POSSIBLE NOW TO GUARD AGAINST LOSS FOR NEXT YEAR. Farmers' Mail and Breeze 46 (25): 25. 1916.
 Injury severe in eastern two thirds of Kansas; control.
- and HAYES, W. P. (720)
 A PRELIMINARY REPORT ON THE LIFE ECONOMY OF SOLENOPSIS MOLESTA SAY. Jour. Econ. Ent. 9: 30. 1916.
 This ant feeds on larvae of fly.
- WIND AS A FACTOR IN THE DISPERSION OF THE HESSIAN FLY. Jour. Econ. Ent. 10: 162-170. 1917. (721)
 References and field observations on migration; screen experimentation; discussion.
- and YUASA, H. (722)
 NOTES ON THE MIGRATION OF THE HESSIAN FLY LARVAE. Jour. Anim. Behavior 7: 307-323. 1917.
 Observations on various phases of larval stage, particularly hatching, orientation, migration, variations in behavior; mortality; influence of moisture, light, and darkness, bibliography.
- and SALMON, S. C. (723)
 RELATION OF KINDS AND VARIETIES OF GRAIN TO HESSIAN-FLY INJURY. Jour. Agr. Research 12: 519-527. 1918.
 Experimental data; table showing relation between kind and variety of grain and infestation of fly; field tests; conclusions.

McCOLLOCH, J. W.—Continued.

(724)

VARIATIONS IN THE LENGTH OF THE FLAXSEED STAGE OF THE HESSIAN FLY.
Jour. Econ. Ent. 12: 252-255. 1919.

Relation of knowledge of length of flaxseed stage to control of fly; report of studies and experiments to determine length of various stages, with tables.

(725)
A METHOD FOR STUDYING THE HESSIAN FLY AND OTHER INSECTS. Ann. Ent. Soc. Amer. 14: 227-230, illus. 1921.

Description of method for conducting life-history studies of fly.

and SALMON, S. C. (726)
THE RESISTANCE OF WHEAT TO THE HESSIAN FLY—A PROGRESS REPORT.
Jour. Econ. Ent. 16: 293-298. 1923.

Continuation of report on relation of small grains to fly; relative infestation of different varieties of wheat; cause of resistance; summary.

(727)
HESSIAN FLY IN KANSAS. Kans. Agr. Expt. Sta. Tech. Bull. 11, 96 p., illus. 1923.

History and distribution; dispersal; food plants; description and life history; natural and artificial control.

(728)
THE HESSIAN FLY PROBLEM IN KANSAS. Jour. Econ. Ent. 18: 65-68. 1925.
Fly only one factor in production of wheat; control by prevention and culture.

(729)
HESSIAN FLY. Kans. Agr. Expt. Sta. Bull. 248: 71-72. 1929.

Popular résumé; time of seeding.

See also DEAN, G. A.

McCONNELL, W. R. (730)
SUMMARY OF FACTS ABOUT THE INTRODUCTION OF PLEUROTROPIS EPIGONUS WALK. Jour. Econ. Ent. 9: 145-147. 1916.

Account of introduction into America from England of a chalcid parasite.

(731)
NOTES ON THE BIOLOGY OF PARAPHELINUS SPECIOSISSIMUS GIRAULT. Ann. Ent. Soc. Amer. 9: 97-102. 1916.

Dr. Howard's theory on parasite; distribution; description of stages; life history.

(732)
EUPELMINUS SALTATOR LINDEM. AS A PARASITE OF THE HESSIAN FLY. Jour. Econ. Ent. 11: 168-175, illus. 1918.

Quotations from Gahan on determination; distribution; hosts; description of stages; number of generations.

(733)
RATE OF MULTIPLICATION OF THE HESSIAN FLY. U.S. Dept. Agr. Bull. 1008, 8 pp., illus. 1921.

Historical; methods of infestation; average number of ova for the principal broods; explanation of tables; conclusions.

McCoy, J. R. (734)
NOTES ON THE HESSIAN FLY (MAYETIOLA DESTRUCTOR). Purdue Agr. 14: 518-521, 542, illus. 1920.

Distribution; description and where found; life history; control.

McGRATH, R. (735)
A SMALL FLY DAMAGE. Farmers' Mail and Breeze 46 (26): 16. 1916.

Fly present in Johnson County, Kans.

McKINNEY, H. H., and LARRIMER, W. H. (736)
SYMPTOMS OF WHEAT ROSETTE COMPARED WITH THOSE PRODUCED BY CERTAIN INSECTS. U.S. Dept. Agr. Bull. 1137, 8 pp., illus. 1923.

Discussion of confusion of injury by fly and other insects with wheat rosette.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 59

MCLANE, S. R. See HASEMAN, L.

McMILLAN, C.

HESSIAN FLY (*CECIDOMYIA DESTRUCTOR SAY*). Nebr. Agr. Expt. Sta. Bull. 1 (2): 17-23, illus. 1888.

Description; habits; parasites; control; history.

MCNEAL, T. A.

DURN THE BUGS. [Editorial.] Farmers' Mail and Breeze 46 (23): 4-5. 1916.

Brief discussion of injury by fly in McPherson and Sumner Counties, Kans.

MALLY, C. W.

ON THE SELECTION AND BREEDING OF DESIRABLE STRAINS OF BENEFICIAL INSECTS. So. African Jour. Sci. 13: 191-195. 1916.

Discussion of fly parasites.

See also WEBSTER, F. M.

MANN, B. P.

ANNUAL MEETING OF THE ENTOMOLOGICAL CLUB OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. Canad. Ent. 12: 171. 1880.

Review of a paper read by Dr. H. A. Hagen on fly.

MARCHAL, P.

SUR LES DIPTÈRES NUISIBLES AUX CÉRÉALES, OBSERVÉS À LA STATION ENTOMOLOGIQUE DE PARIS EN 1894. Compt. Rend. Acad. Sci. [Paris] 119: 496-499. 1894.

Note on fly.

LES CECIDOMYIES DES CÉRÉALES ET LEURS PARASITES. Ann. Soc. Ent. France 66: 1-105, illus. 1897.

Comprehensive account.

MARLATT, C. L.

HESSIAN FLY. U.S.Dept.Agr., Div. Ent. Circ. (n.s.) 12, 4 pp. 1895.

Economic importance and general characteristics; distribution; natural history and habits; effect on wheat; natural enemies; preventive and remedial measures.

THE LAISSEZ-FAIRE PHILOSOPHY APPLIED TO THE INSECT PROBLEM. U.S. Dept.Agr., Div. Ent. Bull. (n.s.) 20: 8-9. 1899.

Note.

INSECT ENEMIES OF GROWING WHEAT. Prairie Farmer 72 (41): 3. 1900.

Extract from editorial giving brief popular résumé of fly with emphasis on control.

THE PRINCIPAL INSECTS OF GROWING WHEAT. U.S.Dept.Agr. Farmers' Bull. 132: 13-22, illus. 1901.

Economic importance and general characteristics; distribution; natural history and habits; effect on wheat; natural enemies; control.

THE ANNUAL LOSS OCCASIONED BY DESTRUCTIVE INSECTS IN THE UNITED STATES. U.S.Dept.Agr. Yearbook 1904: 461-474. 1905.

Estimates of annual injury by fly.

PRINCIPALES INSECTOS QUE ATACAN AL TRIGO DURANTE EL DESARROLLO DE LA PLANTA. Bol. Sec. Fomento [Mexico], 49 pp., illus., 1905.

Résumé, pp. 17-24.

MARLATT, C. L.—Continued.

(749)

LOSSES DUE TO INSECTS. PART 1. INSECTS AS A CHECK ON AGRICULTURAL PRODUCTION AND AS A SOURCE OF WASTE TO ACCUMULATED SUPPLIES. Natl. Conserv. Comm. Rpt. 3: 301-309. 1909.

Discussion in some detail of losses in various areas in 1900 and 1904 in United States as compared with yields.

(750)

NEED OF NATIONAL CONTROL OF IMPORTED NURSERY STOCK. Jour. Econ. Ent. 4: 108. 1911.

Fly causes annual loss of \$50,000,000 in United States.

(751)

PESTS AND PARASITES. WHY WE NEED A NATIONAL LAW TO PREVENT THE IMPORTATION OF INSECT-INFESTED AND DISEASED PLANTS. Natl. Geogr. Mag. 23: 321. 1911.

Fly as an important injurious insect of foreign origin.

(752)

TREE AND PLANT PESTS. THEY DO MILLIONS OF DAMAGE EVERY YEAR. Sci. Amer. Sup. 2168: 40-41, illus. 1917.

Brief discussion; annual damage in United States by fly approximately \$50,000,000.

(753)

THE FOOD BILL OF DESTRUCTIVE INSECTS OF THE UNITED STATES. Reclam. Rec. [U.S.] 8: 429. 1917.

Estimates of annual damage by fly.

(754)

LOSSES CAUSED BY IMPORTED TREE AND PLANT PESTS. Amer. Forestry 23 (278): 75-80. 1917.

Losses by fly estimated.

(755)

PROTECTING THE UNITED STATES FROM PLANT PESTS. Natl. Geogr. Mag. 40: 205. 1921.

Fly one of worst of foreign insects.

(756)

ANOTHER REAL WAR IS UPON US. THIS IS THE STRUGGLE BETWEEN MAN AND INSECT WHICH IS BECOMING MORE ACUTE AS MAN INCREASES HIS SCIENTIFIC PRODUCTION OF FOOD STUFFS. Natl. Repub. 17 (7): 5-6, 38. 1929.

Comparative estimates of damage by various insects, including fly.

(757)

REPORT OF THE [U.S.] ENTOMOLOGIST. Annual Report U.S. Dept. Agr. 1929: 10; 1930: 20; 1931: 31; 1932: 14.

Moderate infestation in southwestern Indiana; brief résumé of outbreaks; control program through regional surveys. (Rpt. 1929); fly investigation plan to cover a period of years. (Rpt. 1930); wild host plants, seasonal history in N.W. (Rpt. 1931); fly survey. (Rpt. 1932).

(758)

MARRE, F. LES ANIMAUX NUISIBLES AU BLÉ EN COURS DE VÉGÉTATION. Jour. Agr. Prat., 32: 450, 451, 493-494. 1919.

Injury by fly from April on; control.

MARSHALL, O. F. (759)
[LETTER REPORTING ON CROP CONDITIONS.] U.S. Commr. Patents Rpt. (pt. 2): 407. 1851.

Mention of injury at intervals of 4 to 6 years; rotation suggested.

MARSHAM, T. (760)
OBSERVATIONS ON THE INSECTS THAT INFESTED THE CORN IN THE YEAR 1795.

IN A LETTER TO THE REV. SAMUEL GOODENOUGH . . . (READ MAY 3, 1796.) Linn. Soc. London Trans. 3: 242-251, illus. 1797.

Description of larva of wheat fly; observation on *Ichneumon* depositing eggs on larva; quotes Markwick and Kirby on insect; concludes that it is the thrips, not the wheat fly, that is damaging the wheat.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 61

- MARTEN, J. (761)
 HESSIAN FLY. Prairie Farmer 63 (52): 828. 1891.
 Quotes article by F. M. Webster giving life history and control measures.
-
- NEW NOTES ON THE LIFE HISTORY OF THE HESSIAN FLY. Insect Life 3: (762)
 265-266. 1891.
- Abstract of paper read before American Association Economic Entomologists, with brief report on breeding-cage experiments.
- MEADE, R. H. (763)
 CECIDOMYIA DESTRUCTOR SAY, THE HESSIAN FLY. Entomologist 20: 170-173, illus. 1887.
 Descriptions of adults.
 See also INCHBALD, P.
- MENGES, F. (764)
 REPORT OF THE ENTOMOLOGIST [HESSIAN FLY (CECIDOMYIA DESTRUCTOR)]. Pa. State Bd. Agr. Bull. 222: 74-76. (Reprinted in Pa. Dept. Agr. Ann. Rpt. 17: 473-476). 1912.
 Injury to wheat crop in Pennsylvania in 1911; effect of dry season; experiment by Dr. P. Marchal to determine number of broods; parasites keep fly under control notwithstanding favorable breeding conditions.
- MERIWEATHER, W. (765)
 SOWING SMALL GRAIN—[HESSIAN FLY.] Amer. Farmer 1: 125-126. 1819.
 Fly extremely destructive to wheat in Virginia in 1818. Discussion of recommendation by a King Williams farmer on early and deep sowing.
-
- ON THE HESSIAN FLY. Amer. Farmer 2: 20, 28, 44. 1820.
 Control.
- METCALF, C. L., and FLINT, W. P. (766)
 DESTRUCTIVE AND USEFUL INSECTS, THEIR HABITS AND CONTROL. 918 pp., illus. New York. 1928.
 General account of hessian fly, pp. 359-364. Importance and type of injury; plants attacked; distribution; life history, appearance, and habits; control. Charts showing life history and normal safe dates of sowing wheat.
-
- and FLINT, W. P. (767)
 FUNDAMENTALS OF INSECT LIFE. 581 pp., illus. N.Y. 1932. [Hessian fly, pp. 341, 342, 403, 406, 413, 474, 489.]
 Life stages; infestations; control.
 See also FLINT, W. P.
- METCALF, Z. P. (768)
 A TEXT BOOK OF ECONOMIC ZOOLOGY. 392 pp., illus. Philadelphia. 1930.
 Brief account; seasonal development diagram, pp. 237-257.
- MEYER, A. J. (770)
 HESSIAN FLY CONTROL. Mo. Agr. Col. Ext. Proj. Announc. 12: 42. 1919.
 Brief report on results of cooperative work by farmers in Missouri in 1916-1918; considerable injury in 1918 in southern Missouri.
- MILES, H. W. (771)
 OBSERVATIONS ON THE INSECTS OF GRASSES AND THEIR RELATION TO CULTIVATED CROPS. Ann. Appl. Biol. 8: 170-181. 1921.
 Fly on cocksfoot, couch grass, and timothy grass; parasites.
- MILLER, D. (772)
 THE ECONOMIC BEARING OF HYMENOPTEROUS INSECTS. New Zeal. Jour. Agr. 19: 201-208. 1919.
 Work of fly parasites in New Zealand.
- MILLER, E. See MITCHELL, S. L. (773)
- MINOR, P. [HESSIAN FLY.] Agr. Soc. Albemarle [Va.] Trans. Nov. 3, 1817, pp. 15, 23. (Photostat copy of original transactions filed in U.S. Dept. Agr. Library.)
 Notice of a communication from Gen. I. H. Cocke on manner in which egg of the hessian fly is deposited; article to be published in Enquirer.

MINOR, P.—Continued.

[HESSIAN FLY.] Agr. Soc. Albemarle [Va.] Trans. March 2, 1918, p. 27.
(Photostat copy of original transactions filed in U.S. Dept. Agr. Library.)

Notice of a memoir on fly by Col. Thos. J. Randolph detailing first appearance and subsequent progress in United States; article to be published in Enquirer.

MITCHELL, S. L.

(775)
ORATION [EXTRACT ON WHEAT INSECT]. N.Y. Agr. Soc. Trans. 1: 32-33.
1801.

Origin; control.

— and MILLER, E.

(776)
FURTHER RAVAGES OF THE WHEAT-INSECT, OR TIPULA TRITICI OF AMERICA,
AND OF ANOTHER SPECIES OF TIPULA IN EUROPE. Med. Repository (2d
hexade) 1: 97-98. 1804.

Classification; occurrence in New York in 1803; appeal for further report
on observations on insect.

MITCHENER, A. V.

(777)
FIELD CROP INSECTS IN MANITOBA. Agr. Gaz. Canada 10: 336. 1923.

Brief account of specific outbreaks in Manitoba, with discussion on control.

(778)
HESSIAN FLY IN MANITOBA IN 1922. Manitoba Agr. Ext. News 3 (1): 1-2,
illus. 1923.

Outbreak in Manitoba; life history; control.

MOORHOUSE, L. A.

(779)
[REPORT TO DIRECTOR.] Okla. Agr. Expt. Sta. Ann. Rpt. 17: 19, 22. 1908.
Brief notes on appearance of fly in 1907.

MORACHEVSKI, V.

(780)
THE CONFLICT OF THE RUSSIAN ZYEMSTVOS WITH THE ENEMIES OF AGRICULTURE—[CECIDOMYIA DESTRUCTOR SAY]. U.S. Dept. Agr., Div. Ent.
Bull. (n.s.) 38: 66. 1902.

Brief mention of Russian law against early sowing of winter crops.

MORGAN, G.

(781)
[ON THE HESSIAN FLY.] Amer. Mus. [Matthew Carey's] 1: 529-532. 1787.

Sounds alarm regarding spread of fly and proposes that Philadelphia
Agriculture Society appoint a committee to inspect fly-infested fields; early
inquiry regarding fly-proof wheat; grains attacked, life cycle, and control.

(782)
LETTER RELATIVE TO THE HESSIAN FLY, FROM COLONEL MORGAN TO THE
PRESIDENT OF THE PHILADELPHIA SOCIETY FOR PROMOTING AGRICULTURE
AND PUBLISHED BY ORDER OF SAID SOCIETY. Amer. Mus. [Matthew Carey's] 2: 298-300. 1787.

Reports "crossing of Delaware" by fly; observations on hatching of
insects; gives primitive method of detecting presence of fly by lighted candle
in room.

(783)
[REMARKS ON HESSIAN FLY.] Amer. Mus. [Matthew Carey's] 4: 48. 1788.
Advocates sowing of yellow-bearded wheat rather than white or red.

MORGAN, H. A.

(784)
RELATION OF THE ECONOMIC ENTOMOLOGIST TO AGRICULTURE. Jour. Econ.
Ent. 1: 14. 1908.

Note on fly control.

MORRIS, M. H.

(785)
OBSERVATIONS ON THE DEVELOPMENT OF THE HESSIAN FLY. Acad. Nat. Sci.
Phila. Proc. 1: 66-68. 1841.

Notes on life history of fly and some related insects.

(786)
ON THE CECIDOMYIA DESTRUCTOR, OR HESSIAN FLY. Amer. Phil. Soc. Trans.
(n.s.) 8: 49-51. 1843.

Disagreement with Say on life history of fly; relates observations on theory
regarding oviposition.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 63

- MORRIS, M. H.—Continued. (787)
 CONTROVERSY RESPECTING THE HESSIAN FLY. Amer. Jour. Agr. and Sci. 5: 206–208. 1847.
- Reply to criticism of Dr. Fitch on theory of author regarding oviposition. (788)
- HESSIAN FLY. Amer. Jour. Agr. and Sci. 6: 105–106. 1847.
 Notes on several Diptera injurious to wheat.
- [ON THE HESSIAN FLY AND THE INSECT DESTRUCTIVE TO THE RASPBERRY PLANT.] Acad. Nat. Sci. Phila. Proc. 3: 238. 1847.
 Retardation of the larva of *Cecidomyia destructor*; habits and injuries of an undetermined hymenopterous insect. (789)
- LETTER REGARDING HESSIAN FLY. Acad. Nat. Sci. Phila. Proc. 4: 194–195. 1849.
 Letter dated July 21, 1849, from Germantown, Pa., regarding comparative habits of *Cecidomyia culmicola* and *C. destructor*. (790)
- MORRISON, F. B. See RUSSELL, H. L.
- MORTON, J. C. (791)
 CECIDOMYIA DESTRUCTOR (THE HESSIAN FLY). In Cyclopedias of Agriculture 1: 415–416. 1851.
 Two generations; brief life history and description; host plants; parasites.
- CERAPHRON DESTRUCTOR. In Cyclopedias of Agriculture, 1: 420. 1851. (792)
 Note on percentage of destruction of fly by parasite.
- Moss, E. H., and Day, D. D. (793)
 THREE STAGES OF FLY. Kans. Farmer 63 (11): 20. 1925.
 Fly scarce in Labette County, Kans., because of seeding after fly-free date.
- MUHLENBERG, P. (794)
 LETTER RELATIVE TO THE HESSIAN FLY, FROM THE VICE-PRESIDENT OF THE SUPREME EXECUTIVE COUNCIL OF PENNSYLVANIA TO THE PRESIDENT OF THE PHILADELPHIA SOCIETY FOR PROMOTING AGRICULTURE. Amer. Mus. (Matthew Carey's) 4: 244. 1788.
 A request that the Philadelphia Society for the Promotion of Agriculture investigate and report regarding hessian fly, its propagation, effect on wheat, and preventive measures.
- MULHEMAN, J. R. (795)
 INSECTS INJURIOUS TO WHEAT. Prairie Farmer 42 (1): 2. 1871.
 Number of broods; life history; parasites.
- MULLER, A. (796)
 ON THE SPINNING OF THE LARVA OF A CECIDOMYIA. Ent. Monthly Mag. 5: 220. 1869.
 Brief discussion on absence of spinning-organs in *Cecidomyia* larvae.
- MUMFORD, H. W. (797)
 WHEAT CROP PROTECTED AGAINST HESSIAN FLY DAMAGE. Ill. Agr. Expt. Sta. Ann. Rpt. 1933: 143.
 Discussion of safe-sowing dates; infestation surveys.
- MURTFELDT, M. E. (798)
 OUTLINES OF ENTOMOLOGY, PREPARED FOR THE USE OF FARMERS AND HORTICULTURISTS, 132 p., illus. Jefferson City, Mo., Tribune Printing Co., 1891.
 Brief account of hessian fly, p. 92.
- MUSE, J. E. (799)
 [LETTER RELATIVE TO CROP PESTS.] Amer. Farmer 3: 113–114. 1823.
 Injury by fly near Cambridge, Md.

- MUSE, J. E.—Continued. (800)
 ON THE HESSIAN FLY. Amer. Jour. Sci. 22: 71-74. 1832.
 Discusses personal observations on habits of fly and associated insects at Cambridge, Md.; control by clean-up of volunteer wheat and by fallowing. Has fly confused with "*Aphis tritici*."
-
- ON THE HESSIAN FLY. Amer. Farmer 13: 329. 1831.
 Appeal for cooperation in investigation of fly; report on observations, with conclusions drawn.
- MYERS, P. R. (802)
 A NEW AMERICAN PARASITE OF THE HESSIAN FLY (MAYETIOLA DESTRUCTROR SAY). U.S. Natl. Mus. Proc. 53: 255-257. 1917.
 Summary of data on and technical description of *Polygnotus vernalis*.
-
- THE IDENTITY OF NEMICROMELUS FULVIPES (FORBES), A COMMON HESSIAN FLY PARASITE. Ent. Soc. Wash. Proc. 26: 222-224. 1924.
 Summary of data fixing specific synonymy and identity of *Nemicromelus fulvipes* Forbes; discussion of priority between *fulvipes* (Forbes) and *subapterus* (Riley).
-
- POLYSCELIS MODESTUS GAHAN, A MINOR PARASITE OF THE HESSIAN FLY. Jour. Agr. Research 29: 289-295, illus. 1924.
 History and distribution; hosts; economic importance; description of stages and life history; effect on hosts.
 See also WADE, J. S.
- N., P. N. (803)
 HARROWING INFESTED WHEAT. Cult. and Country Gent. 43: 72. 1878.
 Note on use of harrow in control.
- NATIONAL FERTILIZER ASSOCIATION (804)
 HAVE REASON TO FEAR INROADS OF HESSIAN FLY. Natl. Fert. Assoc., Soil Impr. Bull. 4 (12): 2, illus. 1920.
 Spread of insect; illustration of destructive ability.
- NELSON, M. (805)
 HESSIAN FLY. Ark. Agr. Expt. Sta. Bull. 154: 45-49. 1918.
 Résumé of experimental wheat seedlings made prior to October 7.
-
- NATURE AND PROGRESS OF THE WORK OF THE AGRICULTURAL EXPERIMENT STATION. Ark. Agr. Expt. Sta. Bull. 158: 48. 1918.
 Brief account.
- NEWELL, W. (806)
 INSECT NOTES FROM GEORGIA FOR THE YEAR 1903. U.S. Dept. Agr., Div Ent. Bull. (n.s.) 46: 104. 1904.
 Fly present at Harmony Grove, Ga.
-
- and SMITH, R. I. (807)
 INSECTS OF THE YEAR 1904 IN GEORGIA—[HESSIAN FLY]. U.S. Dept. Agr., Bur. Ent. Bull. 52: 71-72. 1905.
 Note on observations.
-
- and BERGER, E. W. (808)
 INSECTS INJURIOUS TO THE PRINCIPAL CROPS OF THE SOUTH—WHEAT. Fla. State Plant Bd. Quart. Bull. 6 (4): 99. 1922.
 Note on localities infested with fly; control.
 See also WEBSTER, F. M.
- NEWMAN, E. (809)
 INJURY TO LINEN IN BLEACH FIELDS BY LARVAE OF ARCTIA RUBIGINOSA. Entomologist 9: 42-47. 1876.
 Refers to injury by fly.

- NICE, M. M. (813)
FOOD OF BOBWHITE. Jour. Econ. Ent. 3: 303. 1910.
Hessian fly listed as eaten by bobwhite.
- NICHOLAS, W. C. (814)
ON INDIAN CORN [HESSIAN FLY]. Amer. Farmer 1: 131. 1819.
Note on seeding dates.
- NICHOLS, F. B. (815)
FOILING THE FLY. PROMPT DISKING AFTER HARVEST WILL CHECK THE PEST.
Farmers' Mail and Breeze 45 (25): 3, 21, illus. 1915.
Control by good farming, diskings, use of fly-free dates; account of Atchison, Topeka & Santa Fe Ry. "Hessian fly special" 1915; quotes various authorities on control.
-
- BETTER WHEAT FOR RENO [COUNTY, KANSAS]. Farmers' Mail and Breeze 45 (27): 3. 1915. (816)
Discussion of fly-free date in relation to yield.
-
- GROW THE RIGHT CROP. A DIVERSIFIED SYSTEM GIVES THE BEST RESULTS IN KANSAS FARMING. Farmers' Mail and Breeze 46 (12): 9, 12. 1916. (817)
Injury by fly as far west as Oakley, Kans.; cooperation in control.
-
- A GOOD WHEAT OUTLOOK. Farmers' Mail and Breeze 46 (13): 7. 1916. (818)
Brief discussion of fly development and distribution over Kansas.
-
- A SMALLER WHEAT CROP? THERE IS A VERY ENCOURAGING INTEREST IN DIVERSIFIED FARMING IN KANSAS. Farmers' Mail and Breeze 46 (21): 7. 1916. (819)
Brief discussion of relation of fly to diversified farming.
-
- WHEAT YIELDS ARE LOW. HIGH PRICES, HOWEVER, PROBABLY WILL HELP THIS YEAR TO MAINTAIN THE PROFITS FROM THE CROP. Farmers' Mail and Breeze 46 (27): 3, 17. 1916. (820)
Injury by fly in Sumner and Harper Counties, Kans.
- NICHOLSON, J. F. (821)
[HESSIAN FLY AND OTHER INSECTS.] Okla. Agr. Expt. Sta. Ann. Rpt. (1907-8) 17: 19-22. 1908.
Discussion of conditions during years 1907 and 1908; 25 percent injury in Kay and Garfield Counties.
- NOBLE, J. W. (822)
REPORT ON INSECTS OF THE YEAR: DIVISION NO. 5. ESSEX DISTRICT. Ent. Soc. Ontario, Ann. Rpt. 50: 15. 1920.
Injury by fly to wheat during 1919.
- NOBLE, W. B. (823)
TWO WILD GRASSES AS HOSTS OF THE HESSIAN FLY, PHYTOPHAGA DESTRUCTROR SAY. Jour. Agr. Research 42: 589-592. 1931.
Discussion of fly on *Agropyron repens* (L.) Beauv. and *Elymus canadensis* L.
See also LARRIMER, W. H.
- NOLL, C. F. (824)
VARIETY TESTS OF WHEAT. Pa. Agr. Expt. Sta. Bull. 94, 13 pp. 1909.
Reports on resistance to attacks of fly on various varieties of wheat.
- NORTON, J. B. S. (825)
THE HEALTH OF PLANTS AS RELATED TO INSECTS. Jour. Econ. Ent. 4: 272. 1911.
Discusses symptoms of injury to plants by fly.
- O. (826)
FLY IN WHEAT. Farmers' Cabinet 5: 107. 1841.
Inquiry on control methods; observations on injuries.

O'BRIEN, H. R.

(827)

OUTGESSING THE HESSIAN FLY. Country Gent. 85: 22, illus. 1920.

Brief general account; remedial measures, with fly-free dates for various States.

OUTGESSING THE HESSIAN FLY. Country Gent. 87: 6, 24. 1922.

Control in Ohio by safe sowing dates.

OHIO FARM BUREAU.

(828)

GET BEHIND YOUR HESSIAN FLY CAMPAIGN. Ohio Farm Bur. Monthly 6 (2): 2. 1920.

Editorial recommending observance of fly-free planting.

OHIO STATE BOARD OF AGRICULTURE.

(829)

[HESSIAN FLY.] Ohio Ann. Rpt. Bd. Agr. (1861) 16: 119. 1862.

Injury by fly in Knox County, Ohio, in 1861.

HESSIAN FLY. Ann. Rpt. Ohio Bd. Agr. (1878) 36: 229. 1879.

(830)

Injury by fly in Seneca County, Ohio, in 1878.

O'KANE, W. C.

(832)

HESSIAN FLY (MAYETIOLA DESTRUCTOR SAY). In Injurious Insects, pp. 139-140, illus. 1916.

Brief account.

ORMEROD, E. A.

(833)

THE HESSIAN FLY (CECIDOMYIA DESTRUCTOR) IN GREAT BRITAIN: BEING OBSERVATIONS AND ILLUSTRATIONS FROM LIFE WITH MEANS OF PREVENTION AND REMEDY, FROM REPORTS OF DEPARTMENT OF AGRICULTURE, U.S.A. 24 pp., illus. [London] 1886.

Early history; extent of injury; appearance of attacked crops; description of stages; origin; control.

HESSIAN FLY IN BRITAIN: LIFE HISTORY. Entomologist 20: 9-13, illus. 1887.

General account; personal observations.

(834)

HESSIAN FLY. Entomologist 20: 262-264. 1887.

(835)

Distribution in England; climatic effects on insect.

PARASITES OF THE HESSIAN FLY. Entomologist 20: 317-318. 1887.

(836)

Reports presence in England of the following fly parasites: *Semiotellus nigripes* Lind.; *Tetrastichus rileyi* Lind.; *Merisus intermedius* Lind., var. *micropterus*; *Platygaster minutus* Lind.; *Merisus destructor* Say.

THE HESSIAN FLY, CECIDOMYIA DESTRUCTOR, IN GREAT BRITAIN IN 1887. 56 pp. London. 1887.

(837)

Reports of British observations with illustrations from life and some means of prevention and remedy.

CECIDOMYIA DESTRUCTOR SAY IN GREAT BRITAIN. Ent. Soc. London, Trans. 1887: 1-6, illus.

(838)

Résumé of subject.

HESSIAN FLY. REPORTS ON INSECTS INJURIOUS TO WHEAT PLANTS IN NEW ZEALAND. (Letter to Sir. F. D. Bell.) 4 pp., illus. Apr. 11, 1888.

(839)

Control; parasites; crops attacked; "resistant" wheat; straw as means of transportation; description of various stages.

HESSIAN FLY IN NEW ZEALAND. Letter to Sir. F. D. Bell. 1 p. May 9, 1888.

(840)

Letter regarding status with brief discussion of control.

ORMEROD, E. A.—Continued. (841)

SOME NOTES FROM ENGLAND. Insect Life 2: 147. 1889.

Note on spread of fly.

(842)
THE HESSIAN FLY AND ITS INTRODUCTION INTO BRITAIN. Hertfordshire Nat. Hist. Soc. Trans. [London] 5 (6): 168-176. 1890.

First occurrence in Britain; description of stages; spread of insect, with remarkable increase in 1887-88; investigation of source of derivation by ascertaining set of parasites accompanying fly; control.

(843)
REPORT OF INJURIOUS INSECTS AND COMMON FARM PESTS DURING THE YEAR 1899, WITH METHODS OF PREVENTION AND REMEDY. (Rpt. 23, 2d ser. 1.) 152 pp., illus. London. 1900.

Notes on habits and life history of the fly; injury in England; control, pp. 33-40.

OSBORN, H. (844)

THE FOOD HABITS OF THE THRIPIDAE. Insect Life 1: 137-138. 1888.

Hessian fly attacked by thrips. (Abstract from Ent. Soc. Phila. Proc. 3: 611-612.)

(845)
HESSIAN FLY. Orange Judd Farmer 7 (4): 63, illus., 1890; 9 (5): 68, 1891.

Discusses letter from correspondent regarding possible injury in spring to infested wheat; recommends pasturing (p. 63); quotes Forbes on control by destruction of volunteer wheat and by use of fertilizer (p. 68).

(846)
HESSIAN FLY PARASITES. Orange Judd Farmer 10 (9): 143. 1891.

News item relative to importation from England of *Semiotellus nigripes* into Indiana, Michigan, and Illinois.

(847)
NOTES ON INJURIOUS INSECTS.—THE HESSIAN FLY IN IOWA. Iowa Agr. Expt. Sta. Bull. 33: 598-600. 1896.

Occurrence in Iowa: appearance of injured wheat; description; control; parasite (*Semiotellus destructor*).

(848)
NOTES ON THE ENTOMOLOGICAL EVENTS OF 1896 IN IOWA. U.S. Dept. Agr., Div. Ent. Bull. (n.s.) 6: 79-80. 1896.

Brief mention of supposed first occurrence in Iowa of fly and parasite (*Semiotellus destructor*).

(849)
THE HESSIAN FLY IN THE UNITED STATES. U.S. Dept. Agr., Div. Ent. Bull. 16 (n.s.), 57 pp., illus. 1898.

Importance and early history; original habitat; distribution; outbreaks; description and life history; food plants; primary and secondary parasites; other natural enemies; remedies.

(850)
THE INSECT PROBLEMS. Ohio State. Hort. Soc. Proc. 18: 43. 1903.

Mention of extent of fly damage.

(851)
SOME INSECT PROBLEMS IN OHIO. Soc. Prom. Agr. Sci. Proc. 24: 32-33. 1903.

Brief discussion of damage caused by fly in Ohio; control measures.

(852)
BRIEF NOTES ON OHIO INSECTS IN 1904. U.S. Dept. Agr., Bur. Ent. Bull. 52: 50. 1905.

Note on hessian fly.

- OSBURN, R. C. (853)
WHEAT INSECTS—HESSIAN FLY. Ohio Ext. Serv. Ann. Rpt. 6 (7): 97–98.
1919–20.
- Report on control campaign.
- P. (854)
HESSIAN FLY. Farmers' Cabinet 6: 208. 1842.
Discusses "cause and effect" of fly infestation.
- P., A. (855)
[HESSIAN FLY—RARE-RIPE WHEAT.] Amer. Farmer 9: 210. 1827.
Discusses theory of fly-proof qualities of rare-ripe wheat.
- P., Jr. (856)
THE WHEAT CROP. Amer. Farmer 13: 111. 1831.
Prospect of damage to crops in Virginia.
- PACKARD, A. S. (857)
ON CERTAIN ENTOMOLOGICAL SPECULATIONS [HESSIAN FLY]. Ent. Soc. Phila. Proc. (1866–67) 6: 211–213. 1867.
Brief discussion on transformations of fly.
- [HESSIAN FLY] GUIDE TO STUDY OF INSECTS (Ed. 1), pp. 200, 201, 202, 207,
372–375, illus. 1869. (Ed. 2., 1870; Ed. 3, 1872; Ed. 4, 1874; Ed. 5, 1876;
Ed. 6, 1878; Ed. 7, 1880.) (858)
Number of broods; mention of parasites.
- ENTOMOLOGICAL CALENDAR—[HESSIAN FLY]. Amer. Nat. 2: 163–164, illus.
1869. (859)
Brief description of life history.
- [HESSIAN FLY.] In Our Common Insects, pp. 72, 196–197, illus. 1873.
Brief report on broods and life history.
- HESSIAN FLY, JOINTWORM AND WHEAT MIDGE. Canad. Ent. 9: 100. 1877. (860)
Request for specimens.
- [HESSIAN FLY.] In Half Hours with Insects, pp. 212–215, illus. 1877. (861)
Early history; description of stages; parasites.
- INSECTS SPECIALLY INJURIOUS TO WHEAT . . . THE HESSIAN FLY, CECIDOMYIA
DESTRUCTROR OF SAY. U.S. Geol. and Geogr. Survey [Hayden's] Ann. Rpt.
9: 695–697, illus. 1877. (862)
Origin and spread; life history; parasites; description of stages; remedies;
map showing distribution in 1875.
- HESSIAN FLY. Canad. Ent. 11: 137–139. 1879. (863)
Reprint of circular on June 1879 of the United States Entomological Com-
mission requesting information regarding fly.
- UNITED STATES ENTOMOLOGICAL COMMISSION. Ent. Soc. Ontario, Ann.
Rept. 1879: 36–37. 1879. (864)
Outlines functions of the commission.
- HESSIAN FLY. Amer. Ent. 3: 118–121, 140–141, illus. 1880. (865)
Number of broods; mode of egg laying; habits of larva, pp. 118–121;
summary of habits and means of checking, and probable geographical limits,
pp. 140–141.

PACKARD, A. S.—Continued.

(867)

HESSIAN FLY: ITS RAVAGES, HABITS, AND MEANS OF PREVENTING ITS INCREASE. U.S. Ent. Comm. Bull. 4: 1-43, illus. (Reprinted, verbatim, in Ill. State Ent. Rpt. 10: 187-232, 1881, illus.; with some alterations and additions, U.S. Ent. Comm. Rpt. 3: 198-248. 1883.)

Early history; description; life history; effect on wheat; influence of weather; parasites; remedial and preventive measures; periodicity in abundance and scarcity; distribution.

HESSIAN FLY. Amer. Nat. 14: 586, illus. 1880.

(868)

Review of United States Entomological Commission Bulletin 4, giving further notes on control.

See also RILEY, C. V.

PACKARD, C. M.

(869)

LIFE HISTORIES AND METHODS OF REARING HESSIAN-FLY PARASITES. Jour. Agr. Research 6: 367-381, illus. 1916.

Life histories and methods of rearing *Eupelmus allynii* French, *Merisus destructor* Say, and (*Merisus*) *Micromelus subapterus* Riley.

HESSIAN FLY IN CALIFORNIA. Calif. State Comm. Hort. Monthly Bull. 7: 174-177, illus. 1918.

(870)

Contains general account of fly under California conditions, with emphasis on local control.

HESSIAN FLY IN CALIFORNIA. U.S. Dept. Agr. Tech. Bull. 81, 25 pp., illus. 1928.

(871)

Comprehensive technical account with brief bibliography.

HESSIAN FLY CONTROL IN THE UNITED STATES. Fourth Internat'l. Cong. Ent. (Ithaca) Trans. (1928) v. 2, pp. 181-190. 1929.

(872)

General account.

SEE also WALTON, W. R.

PAINTER, R. H.

(873)

THE BIOLOGICAL STRAINS OF HESSIAN FLY. Jour. Econ. Ent. 23:322-326. 1930.

Discussion of degrees of infestation by fly of various wheat varieties; field observations and infestation counts; uniform greenhouse tests; soil tests; selective breeding of various strains of fly.

OBSERVATIONS ON THE BIOLOGY OF THE HESSIAN FLY. Jour. Econ. Ent. 23:326-329. 1930.

(874)

Discussion of individual histories of eggs of fly; survival from eggs laid on various leaves of wheat; sex of fly from single pairs; sex ratios.

SALMON, S. C., and PARKER, J. H. RESISTANCE OF VARIETIES OF WINTER WHEAT TO HESSIAN FLY. PHYTOPHAGA DESTRUCTROR SAY. Kans. Agr. Expt. Sta. Tech. Bull. 27: 58, illus. 1931.

(875)

Historical statement; methods of measurement; experiments; kinds of resistance; characteristics that affect resistant qualities.

PARKER, J. B. See HEADLEE, T. J.

PARKER, J. H.

(876)

INSECT RESISTANCE IN WHEAT AND SORGHUMS A HERITABLE CHARACTER. U.S. Dept. Agr. Yearbook 1931: 316-317, illus. 1931.

Brief discussion of wheat varieties tolerant to fly injury.

PARKS, T. H.

(877)

A COUNTY-WIDE SURVEY TO DETERMINE THE EFFECT OF TIME OF SEEDING AND PRESENCE OF VOLUNTEER WHEAT UPON THE EXTENT OF DAMAGE BY THE HESSIAN FLY. Jour. Econ. Ent. 10: 249-253. 1917.

Outbreak in Kansas in 1916; four methods of control emphasized by Kansas Experiment Station; report of fly survey in McPherson County; dissemination of knowledge so obtained throughout State.

PARKS, T. H.—Continued.

PLANNING A STATE EXTENSION PROJECT IN ENTOMOLOGY. Jour. Econ. Ent. 11: 157-164. 1918.

Discussion of educational work in fly control.

(878)

FALL PRACTICES TO DESTROY CEREAL CROP INSECTS. Ohio Agr. Expt. Sta. Mo. Bull. 3 (11) (whole no. 35): 233. 1918.

Note on scarcity of fly.

(879)

INSECTS THREATENING THE WHEAT CROP. Ohio Farmer 144 (11) (whole no. 3731): 3-295. 1919.

Comments on wheat survey made by Ohio Agricultural Experiment Station, Ohio Department of Agriculture, and Ohio State University; map showing fly-free dates for seeding.

(880)

THE HESSIAN FLY DATES. Natl. Stockman and Farmer 44 (23): 662, illus. 1920.

Outbreaks in Ohio, Indiana, and Illinois; map showing safe seeding dates.

(881)

FLY OUTBREAK IN 1920 ONE OF THE WORST KNOWN. Ohio Agr. Expt. Sta. Farm Bur. Monthly 6 (2): 1, illus. 1920.

Specific outbreak in Ohio in 1919-20; control.

(882)

WHEAT-SOWING DATES TO AVOID HESSIAN FLY. Ohio Agr. Expt. Sta. Monthly Bull. 5: 243-246, illus. 1920.

Heavy infestation of fly; map of fly-free dates with interpretation.

(883)

HESSIAN FLY AND THE NEXT WHEAT CROP. Ohio Farmer 146: 254-255, illus. 1920.

Directions for campaign of prevention; parasites.

(884)

HOW DAMAGE OF INSECTS TO WHEAT IS FORECAST. Ohio Agr. Expt. Sta. Farm Bur. Monthly 6 (10): 1, 4. 1921.

Illustrated article on percentage of wheat straws infested by fly larvae during 1918-20; efforts of farm bureaus to establish late sowing dates.

(885)

THE EFFECT OF TIME OF SOWING UPON THE CONTROL OF THE WHEAT SHEATH WORM. (*HARMOLITA VAGINICOLA DOANE.*) Jour. Econ. Ent. 14: 490-492. 1921.

Control measures of *Mayetiola* and *Harmolita* compared.

(886)

HESSIAN FLY CONTROL. Ohio Agr. Expt. Sta. Ext. Bull. 18 (12): 1-8, illus. 1923.

Habits; tables of safe sowing dates and results; cooperation.

(887)

FIVE YEARS OF HESSIAN FLY STUDIES IN OHIO. Jour. Econ. Ent. 16: 299-304. 1923.

Outbreak in Ohio during 1919; dates of emergence; report on field emergence stations conducted by Ohio State University and Ohio Experiment Station; parasitism.

(888)

THE HESSIAN FLY AND THE NEXT WHEAT CROP. Ohio Dept. Agr. Off. Bull. 16 (1): 55-59. 1923.

Results from cooperative control in Ohio; table of safe sowing dates by counties, with map of average infestation percentage.

(889)

FOOLING THE HESSIAN FLY. Ohio Farmer 154: 258. 1924.

Results in northwestern Ohio from late sowing; fly-free dates.

(890)

- PARKS, T. H.—Continued. (891)
 HESSIAN FLY NOT SERIOUS IN EARLY SOWN WHEAT. Farm and Dairy 15 (9): 17. 1928.
 Interview discussing infestation in Columbiana County, Ohio, with detailed records of injury.
-
- THE PROGRESS OF HESSIAN FLY IN OHIO. Ohio Agr. Expt. Sta. Bimonthly Bull. 146: 154-156, illus. 1930.
 Annual survey of 20 counties with percentage of infestation; discussion of causes of high infestation in certain counties.
-
- A STATE PROGRAM OF INSECT CONTROL. Jour. Econ. Ent. 24: 663-666. 1931.
 Résumé of fly survey.
-
- THE PRESENT HESSIAN FLY SITUATION. Ohio Agr. Expt. Sta. Bimonthly Bull. 158: 168-172, illus. 1932.
 See also GOSSARD, H. A.
- PARROTT, P. J. (895)
 THE HESSIAN FLY. Kans. Farmer 38 (21): 435. 1900.
 Brief popular discussion; control.
- PARTINGTON, C. F. (896)
 CECIDOMYIA. In British Cyclopedic Natural History. [London] 1: 757. 1836.
 Classification and description; early history and spread; migrations; habits.
-
- CERAPHRON. In British Cyclopedic Natural History [London] 1: 771-772. 1836.
 Brief description of fly parasite.
- PASSMORE, P. (898)
 HESSIAN FLY. Farmers' Cabinet 5: 264. 1841.
 Observations on oviposition.
- PEAIRS, L. M. See SANDERSON, E. D.
- PERRILL, A. L. (899)
 HESSIAN FLY. Ohio Bd. Agr. Ann. Rpt. 9: 142. 1855.
 Injury by fly in Peckaway County, Ohio, in 1854.
- PERTHSHIRE, A. G. (900)
 QUERIES AND ANSWERS—THE HESSIAN FLY. Loudon's Mag. Nat. Hist. [London] 2: 292. 1829.
 Observations and queries on life history.
- PETTIT, R. H. (901)
 INSECTS OF THE YEAR—THE HESSIAN FLY (CECIDOMYIA DESTRUCTOR). Mich. Agr. Expt. Sta. Bull. 175: 358-361, illus. 1899.
 Early appearance; description of stages; parasites; control.
-
- WHEAT INSECTS. Mich. Farmer 51: 283, 297. 1907.
 Comparison of fly and joint worm; late sowing for control of fly.
-
- INSECTS AFFECTING WHEAT—THE HESSIAN FLY (MAYETIOLA DESTRUCTOR). (903)
 Mich. Agr. Expt. Sta. Bull. 258: 69-72, illus. 1910.
 Life history; natural enemies; remedies.
-
- THE HESSIAN-FLY SITUATION. Mich. Farmer 143: 138. 1914.
 Late sowing for control.
-
- REPORT OF THE ENTOMOLOGICAL SECTION. Mich. State Bd. Agr. Ann. Rpt. 58: 270-272. 1920.
 Increase of fly in southern half of Michigan in early sown wheat.

- PETTIT, R. H.—Continued. (906)
 HESSIAN FLY. Mich. Agr. Expt. Sta. Circ. Bull. 49, 8 pp., illus. 1922.
 Life history and work of insect; control, with table of fly-free dates.
- COMMON PESTS OF FIELD AND GARDEN CROPS—HESSIAN FLY (CECIDOMYIA DESTRUCTOR). Mich. Spec. Bull. 132: 38–42, illus. 1924. (907)
 Food plants; life history; control, with table of safe seeding dates.
- COMMON PESTS OF FIELD AND GARDEN CROPS (REVISED) HESSIAN FLY (PHYTOPHAGA DESTRUCTOR). Mich. Spec. Bull. 183: 65–69, illus. 1929. (908)
 Food plants; life history; control, with tables of safe seeding dates.
- PHILLIPS, W. J. (909)
 REPORT ON ISOSOMA INVESTIGATIONS. Jour. Econ. Ent. 10: 140. 1917.
 Comparative injury by *Isosoma* and *Phytophaga* discussed.
- THE WHEAT JOINTWORM AND ITS CONTROL. U.S. Dept. Agr. Farmers' Bull. 1006, 14 pp., illus. 1918. (910)
 Rank, as pest, of fly and jointworm in certain sections of the United States, p. 4.
- STUDIES ON THE LIFE HISTORY AND HABITS OF THE JOINTWORM FLIES OF THE GENUS HARMOLITA (ISOSOMA), WITH RECOMMENDATIONS FOR CONTROL. U.S. Dept. Agr. Bull. 808, 27 pp., illus. 1920. (911)
 Similarity of control for jointworms and fly, pp. 23–26.
- and Poos, F. W. (912)
 LIFE-HISTORY STUDIES OF THREE JOINTWORM PARASITES. Jour. Agr. Research 21: 405–426, illus. 1921.
 Discussion of *Eupelmus allynii* French.
- and Poos, F. W. (913)
 TWO HYMENOPTEROUS PARASITES OF AMERICAN JOINTWORMS. Jour. Agr. Research 34: 473–488, illus. 1927.
 Discussion of two insects also parasitic on fly.
- PLEASANTS, T. S. (914)
 [HESSIAN FLY.] Amer. Farmer (4) 4: 274–275. 1849.
 Description, origin, and habits; fly the cause of a great revolution in culture of wheat; fertilizing and late sowing for control.
- Poos, F. W. See PHILLIPS, W. J.
- POOPENOE, E. A. (915)
 HESSIAN FLY. [CECIDOMYIA DESTRUCTOR say.] Kans. State Agr. Col. Press Bull. 101, 1 p. 1901.
 Summary.
- SOME INSECT ENEMIES OF WHEAT IN KANSAS. Kans. State Bd. Agr. [Quart.] Rpt. 21 (81): 110–116. 1902. (916)
 Remedies; preventives; quotes Webster on control.
- PREVENTING HESSIAN FLY DAMAGE. Orange Judd Farmer 35 (8): 143. 1903. (917)
 Brief popular discussion of habits; control by late sowing; recommends October 5 for central counties of Kansas.
- PREVENTIVE WORK AGAINST THE HESSIAN FLY (CECIDOMYIA DESTRUCTOR SAY). Kans. State Agr. Col. Press Bull. 128, 1 p. 1903. (918)
 Control.
- PREVENTIVE WORK AGAINST THE HESSIAN FLY. Kans. Agr. Expt. Sta. Bull. 136: 151–153. 1906. (919)
 Infestation in Kansas; control.

- POWELL, S. (920)
 ANSWER [TO LETTER RELATIVE TO HESSIAN FLY]. Amer. Mus. [Matthew Carey's] 4: 244-245. 1788.
- Reply to letter from vice-president of Supreme Executive Council of Philadelphia, giving report on investigation of fly injury.
- POWERS, G. (921)
 [HESSIAN FLY.] Ohio State Bd. Agr. Ann. Rpt. (1853) 8: 245. 1854.
 Injury by fly in Wood County, Ohio.
- POWERS, S. (922)
 HESSIAN FLY. Country Gent. 66: 889. 1901.
 Introduction: remedial measures.
- PRICE, H. L. (923)
 FIGHTING THE INSECT PESTS AND DISEASES OF ORCHARD, FIELD, AND GARDEN CROPS—HESSIAN FLY. Va. Agr. Expt. Sta. Circ. 7: 87-89. 1909.
 Brief account.
- PRINCE, F. S. (924)
 SPRING HESSIAN FLY CAMPAIGN. Ohio Farmer 145: 598. 1920.
 Illustrations on effects of delayed seeding.
- R. (925)
 HESSIAN FLY. Amer. Farmer 2: 192. 1820.
 Experiment suggested to determine whether oviposition takes place in the fall or the spring.
- RAMACHANDRA, R. Y. (926)
 A PRELIMINARY LIST OF THE INSECT PESTS OF MESOPOTAMIA. Ent. Meeting Pusa Rpt. Proc. 4: 164-173. 1921
 Injury to wheat and barley by insect suspected to be fly.
-
- A PRELIMINARY LIST OF INSECT PESTS OF 'IRAQ. Iraq (Baghdad) Dept. Agr. Mem. 35 pp. 1921.
 Notes on life history and habits of fly in wheat and barley; fly identified by E. P. Felt.
- REED, E. B. (928)
 ANNUAL MEETING OF THE ENTOMOLOGICAL CLUB OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. Ent. Soc. Ontario, Ann. Rpt. 1880: 17-18. 1881.
 Secretary's minutes summarizing paper by H. A. Hagen read at meeting.
- REED, H. J. See CHRISTIE, G. I.
- RICHARDSON, J. L. (929)
 [FLY-RESISTANT WHEAT.] Amer. Farmer 6: 156-157. 1824.
 "White flint wheat" said to be fly-proof.
- RILEY, C. V. (930)
 REPORT OF THE ENTOMOLOGIST. U.S. Dept. Agr., Bur. Ent., Ann. Rpt. 1879: 251-252, illus. 1880.
 Anatomical differences between *Cecidomyia tritici*, *C. trifolii*, and *C. destructor*.
-
- PROBABLE PARTHENOGENESIS IN THE HESSIAN FLY. Amer. Ent. 3: 127. 1880.
 Notes on Hagen's article on parthenogenesis; also brief discussion on abundance in United States.
-
- HESSIAN FLY. Amer. Nat. 15: 750. 1881. (932)
 Extensive damage reported in Illinois and Missouri; its abundance in western prairie States in 1881.
-
- EFFECT OF DROUGHT ON THE HESSIAN FLY. Amer. Nat. 15: 916. 1881. (933)
 (Reprinted in Farmers' Review 7: 370. 1881.)
 Effect of dry, hot weather on fly and parasite.

- RILEY, C. V.—Continued. (934)
ENTOMOLOGICAL NOTES OF THE YEAR. Prairie Farmer 55 (47): 739. 1883.
Quotes Forbes on injury by fly in Illinois.
- PACKARD A. S., and THOMAS, C. (935)
EARLY REFERENCES TO THE OCCURRENCE OF THE HESSIAN FLY IN NORTH AMERICA. U.S.Ent.Comn. Rept. 3 App. I: [3]–[5]. 1883.
Extracts from colonial newspapers on occurrence of fly; the fly resisted by certain varieties of wheat.
- ON THE PARASITES OF THE HESSIAN FLY. U.S.Natl.Mus. Proc. 8: 413–422, illus. 1886. (936)
Synonymy and description of *Merisus destructor* (Say); comparison with *Merisus (Homoporus) subapterus*; notes on *Eupelmus allyni* (French, *Tetrastichus productus*, n. sp., and *Platygaster herrickii* Packard, with technical description of *Tetrastichus*.
- HESSIAN FLY IN CALIFORNIA. U.S.Dept.Agr., Div. Ent. Bull. 12: 43–44. 1886. (937)
Location of fly-infested portions of California.
- [HESSIAN FLY.] Ent. Soc. London Trans. 1887: xlv–xlviii. 1887. (938)
Minutes of meeting of Entomological Society of London at which Professor Riley discussed introduction of fly into United States and gave résumé of evidence.
- THE HESSIAN FLY IN ENGLAND—ITS ORIGIN; ITS PAST; ITS FUTURE. London Times no. 32, 205, p. 4. Oct. 17, 1887. (939)
Date of introduction of *Cecidomyia destructor* in England; probability that it has been introduced from continental Europe since the time of Curtis; conditions in Great Britain unfavorable for its increase.
- and VERRALL, G. H. (940)
[INTRODUCTION OF THE HESSIAN FLY INTO ENGLAND.] Ent. Soc. London Trans. (Proc.) 1887: xlv–xlviii.
Discussion on date of introduction of fly into America and England.
- REMARKS ON THE HESSIAN FLY. Soc. Prom. Agr. Sci. Proc. 9: 59–60. 1888. (941)
Discussion on origin, with citations and extracts from records.
- HESSIAN FLY AN IMPORTED INSECT. Canad. Ent. 20: 121–127. 1888. (942)
Discussion on origin.
- and HOWARD, L. O. (943)
THE HESSIAN FLY HALF WAY AROUND THE WORLD. Insect Life 1: 32. 1888.
Hessian fly reported in New Zealand in Rangitikei district at Bellevue in Marton State of Wellington.
- and HOWARD, L. O. (944)
INSECTS CONFOUNDED WITH HESSIAN FLY PRIOR TO THE REVOLUTION. Insect Life 1: 86. 1888.
Discusses quotation from Du Hamel regarding identity of fly.
- REMARKS ON THE HESSIAN FLY. Insect Life 1: 107–108. 1888. (945)
Abstract of paper on alleged occurrence prior to 1791.
- SOME RECENT ENTOMOLOGICAL MATTERS OF INTERNATIONAL CONCERN. Insect Life 1: 131–133. 1888. (946)
Brief general account; parasites.
- and HOWARD, L. O. (947)
GRAIN INSECTS IN AUSTRALIA. Insect Life 1: 193–194. 1888.
Means of checking introduction of fly.

- RILEY, C. V.—Continued. (948)
 BURNING STUBBLE FOR HESSIAN FLIES. Insect Life 1: 294. 1889.
 Burning stubble vs. rearing parasites.
- and HOWARD, L. O. (949)
 LATE IMPORTANT PUBLICATIONS RELATIVE TO THE HESSIAN FLY. Insect Life 1: 322-323. 1889.
 Notice of new publications (Ormerod, E. A., Hessian fly; Lindeman, K., *Ueber das Vorkommen der Hessenfliege an wildwachsenden Gra'sern*; Forbes, S. A., A new parasite of the hessian fly; Enock, F., Parasites of the hessian fly, with brief review of contents).
- and HOWARD, L. O. (950)
 IMPORTATION OF HESSIAN FLY PARASITES. Insect Life 2: 390. 1890.
 Note on cooperation with Enock in importing hessian fly parasite.
- (951)
 CATALOGUE OF THE EXHIBIT OF ECONOMIC ENTOMOLOGY AT THE WORLD'S COLUMBIAN EXPOSITION, CHICAGO.—INSECTS INJURIOUS TO AGRICULTURE. U.S. Dept. Agr., Div. Ent. Bull. 31 (n.s.): 8. 1890.
 Exhibited at World's Columbian Exposition.
- and HOWARD, L. O. (952)
 RECENT IMPORTANT ENTOMOLOGICAL REPORTS. Insect Life 2: 336-338. 1890.
 Brief review of various reports containing discussion of fly, notably those by Ormerod and Forbes.
- and HOWARD, L. O. (953)
 PROCEEDINGS OF THE ENTOMOLOGICAL CLUB OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCES, INDIANAPOLIS, 1890. Insect Life 3: 81-82. 1890.
 Note on fly in Canada.
- and HOWARD, L. O. (954)
 THE HESSIAN FLY ATTACKING GRASSES IN CALIFORNIA. Insect Life 3: 306-307. 1891.
 Records occurrence of two species of *Cecidomyia* in grasses, which subsequently proved not to be hessian fly.
- and HOWARD, L. O. (955)
 APPEARANCE OF WHEAT INFESTED WITH HESSIAN FLY. Insect Life 3: 339-340. 1891.
 Characteristic appearance of infested wheat.
- and HOWARD, L. O. (956)
 AUSTRALIAN FRUIT GROWERS AND VINE GROWERS IN CONVENTION. Insect Life 3: 352-353. 1891.
 Mention of fly in a legislative bill to prevent introduction.
- and HOWARD, L. O. (957)
 IMPORTED PARASITES OF THE HESSIAN FLY. Insect Life 3: 354-355. 1891.
 Notice of parasites received from London, with inquiry regarding station entomologists willing to take charge of and liberate in fly-infested fields.
- and HOWARD, L. O. (958)
 ECONOMIC ENTOMOLOGY IN CANADA. Insect Life 3: 359-360. 1891.
 Notice of Fletcher's 1890 report, which compares effect of fly attack with that of other insects.
- and HOWARD, L. O. (959)
 MISS ORMEROD'S FOURTEENTH REPORT. Insect Life 3: 366. 1891.
 Notice of fourteenth report containing fly damage during 1890.
- and HOWARD, L. O. (960)
 IMPORTATION OF HESSIAN FLY PARASITES. Insect Life 3: 367. 1891.
 Mention of receipt and distribution of *Semiotellus nigripes* from Enock, London.

- RILEY, C. V., and HOWARD, L. O. (961)
 POPULAR LECTURES ON INSECTS. Insect Life 3: 427. 1891.
 Notice of illustrated lecture on hessian fly.
- and HOWARD, L. O. (962)
 SOME OF THE BRED PARASITIC HYMENOPTERA IN THE NATIONAL COLLECTION—
 [HESSIAN FLY]. Insect Life 4: 125-126. 1891.
 Mention of bred parasites (*Platygaster herrickii* Pack. and *Polygnotus hemalis* Forbes).
- and HOWARD, L. O. (963)
 A CAREFUL STUDY OF THE HESSIAN FLY. Insect Life 4: 234-235. 1892.
 Brief review of Enoch's Life History of Hessian Fly.
- and HOWARD, L. O. (964)
 PROFESSOR FORBES' SIXTH REPORT. Insect Life 4: 293. 1892.
 Notice on Forbes' sixth report containing notes on fly.
- and HOWARD, L. O. (965)
 HESSIAN FLY IN NEW ZEALAND. Insect Life 4: 405-406. 1892.
 Brief report on occurrence and spread in New Zealand; long seasons and four broods (from New Zealand Farmer, February 1892).
- and HOWARD, L. O. (966)
 POPULAR NAMES OF THE HORN FLY. Insect Life 6: 52. 1893.
 Note on horn fly, popularly called "hessian" fly in Alabama.
- and HOWARD, L. O. (967)
 THE HORN FLY IN ALABAMA. Insect Life 6: 54. 1893.
 Note on horn fly, popularly known as "hessian" fly.
- and HOWARD, L. O. (968)
 PARASITIC AND PREDACEOUS INSECTS IN APPLIED ENTOMOLOGY. Insect Life 6: 130-141. 1893.
 Note on introduction of *Semiotellus nigripes* from England, pp. 133-134.
- and HOWARD, L. O. (969)
 [HESSIAN FLY.] Insect Life 6: 158. 1893.
 Fly as treated in paper read by Forbes at the fifth annual meeting of the Association of Economic Entomologists.
- and HOWARD, L. O. (970)
 ANOTHER TRIAL WITH ENGLISH HESSIAN-FLY PARASITES. Insect life 6: 375. 1894.
 Note on attempt at introducing *Semiotellus nigripes* near Philadelphia.
- and HOWARD, L. O. (971)
 THE IMPORTED PARASITE OF THE HESSIAN FLY. Insect Life 7: 356, illus. 1895.
 Note on introduction of *Entedon epigonus* Walker from England.
- and HOWARD, L. O. (972)
 APPARENT SUCCESS OF ONE OF THE HESSIAN FLY PARASITE IMPORTATIONS. Insect Life 7: 414-415. 1895.
 Additional note on introduction from England of *Entedon epigonus* Walker; recovery at Cecilton, Md.
- HESSIAN FLY (CECIDOMYIA DESTRUCTOR SAY). Supplement to Encyclopedia Britannica. Ed. 9, v. 3, p. 324, illus. 1896.
 Brief description of origin, distribution, life history, parasites, and control.
 See also WALSH, B. D.
- ROBERTS, I. P., SLINGERLAND, M. V., and STONE, J. L. (974)
 HESSIAN FLY: ITS RAVAGES IN NEW YORK IN 1901. N.Y. (Cornell) Agr. Expt. Sta. Bull. 194, pp. 239-260, illus. 1901.
 Ravages in New York in 1901; field variety tests and experiments; life history; description; habits; prevention.
- ROCKWOOD, L. P. (975)
 HESSIAN FLY IN OREGON. Oreg. Agr. Expt. Sta. Circ. 77, 7 pp., illus. 1926.
 Brief popular account.

- ROCKWOOD L. P., and REEHER, M. M. (976)
 THE HESSIAN FLY IN THE PACIFIC NORTHWEST. U.S. Dept. Agr. Tech. Bull. 361, 23 pp., illus. 1933.
 History and distribution; life history; economic importance; host plants; control.
- Ross, P. H. (977)
 LATE SEEDING STOPPED FLIES. Farmers' Mail and Breeze 43 (34): 14. 1913.
 Value of late sowing, after October 1, in Leavenworth County, Kans.
- HESSIAN FLY CAN BE CONTROLLED. Kans. Farmer 52 (30): 4. 1914. (978)
 Control measures.
- and CAESAR, L. (979)
 INSECTS OF THE SEASON IN ONTARIO * * * Ent. Soc. Ontario, Ann. Rpt. 49: 23-27, 1919; 50: 103, 1920.
 Injury by fly in Ontario.
- RUDE, C. S. (980)
 HESSIAN FLY IN OKLAHOMA. Okla. Agr. Ext. Circ. 242, 4 pp., illus. [1928?].
 Brief popular account; fly situation in January 1928; fly infestation at different planting dates; stages and life history; control; desirability of early seed bed.
- RUGGLES, A. G. (981)
 MISCELLANEOUS NOTES ON ECONOMIC WORK; ORCHARD AND SHADE TREE INSECTS, SPRAYING, TRUCK AND FIELD CROPS. Minn. State Ent. Ann. Rpt. (1915-16) 16: 59-64. 1916.
 Discussion of late sowing in fly control.
- HESSIAN FLY (MAYETIOLA DESTRUCTOR SAY). Minn. State Ent. Ann. Rpt. 19: 6. 1922. (982)
 Note on outbreak in Minnesota.
- RUSSELL, H. L., and MORRISON, F. B. (983)
 PEA MOTH INVESTIGATIONS AND OTHER INSECT PESTS IN 1920. Wis. Agr. Expt. Sta. Bull. 323: 44-46. 1920.
 Reappearance of fly in Wisconsin; causes discussed.
- MORRISON, F. B. and EBLING, W. H. (984)
 HESSIAN FLY STUDIES IN THE PENINSULAR REGION. Wis. Agr. Expt. Sta. Bull. 388: 70. 1926.
 Injury; date of seeding experiments.
- S. (985)
 HESSIAN FLY. Amer. Farmer 5: 139-140. 1823.
 Consists of early bibliography, with experiments on control.
- SALMON, S. C. (986)
 KEEP THE WHEAT PURE. KANSAS SHOULD HOLD ITS REPUTATION FOR HIGH QUALITY WITH THIS GRAIN. Farmers' Mail and Breeze 46 (36): 7. 1916.
 Discusses fly-resistant varieties of wheat.
- DON'T SOW WHEAT TOO EARLY. Farmers' Mail and Breeze 49 (37): 40. 1919. (987)
 Popular discussion of wheat culture in Kansas in relation to injury by fly.
- SWANSON, C. O., and LAUDE, H. H. (988)
 BLACKHULL WHEAT IN KANSAS. Kans. Agr. Expt. Sta. Bull. 241: 9. 1927.
 Resistance to fly discussed.
- THROCKMORTON, R. I. (989)
 WHEAT PRODUCTION IN KANSAS. Kans. Agr. Expt. Sta. Bull. 248: 49-52. 1929.
 Time to seed wheat; influence of fly on time of seeding; fly-safe dates; life-history chart; map showing safe dates to sow.
 See also CALL, L. E.; MCCOLLOCH, J. W.

- SANBORN, C. E., and WADE, O. (990)
HESSIAN FLY. Okla. Agr. Ext. Circ. 78, 3 pp., illus. 1918.
Method of identifying; development; spring infestation; host plants; control; parasites.
- [HESSIAN FLY (*MAYETIOLA DESTRUCTOR SAY*)]. Okla. Agr. Expt. Sta. Ann. Rpt. 29: 42, illus. 1920.
Note on crops infested and control.
- SANDERSON, E. D. (991)
INSECTS INJURIOUS TO STAPLE CROPS. 295 pp., illus. 1902.
Comprehensive general account; summary of Hopkins' law; bibliography, pp. 100-111.
- RELATION OF TEMPERATURE TO THE HIBERNATION OF INSECTS. Jour. Econ. Ent. 1: 61. 1908.
Brief discussion of relation of fly to moisture and temperature.
- INSECT PESTS OF FARM, GARDEN, AND ORCHARD. 684 pp., illus. New York and London. 1912.
Comprehensive general account; quotes various authorities on control, pp. 123-129.
- and JACKSON, C. F. (994)
ELEMENTARY ENTOMOLOGY. 372 pp., illus. Boston. 1912.
Introduction and habits of fly, p. 228.
- and PEAIRS, L. M. (995)
INSECT PESTS OF FARM, GARDEN, AND ORCHARD. Ed. 2, 707 pp., illus. New York. 1921.
Origin of name; life history; control, pp. 117-121. Ed. 3, 568 pp., illus. 1931. [Hessian fly, pp. 144-149.]
- and PEAIRS, L. M. (996)
INSECT PESTS OF FARM, GARDEN, AND ORCHARD. 568 pp., illus. New York 1931. [Ed. 3, hessian fly, pp. 144-149.]
Comprehensive general account; résumé of recent data on control.
- SAPP, C. H. (998)
FIGHT THE HESSIAN FLY. Natl. Stockman and Farmer 44 (23): 734. 1920.
Recommendations on control.
- SATTERTHWAIT, A. F. (999)
HESSIAN FLY CONFERENCE. Jour. Econ. Ent. 19: 185-188. 1926.
Report of conference held at Kansas City, Mo., December 30, 1925. Fly conference to be continued annually.
- SAUNDERS, D. A. (1000)
SOME DESTRUCTIVE INSECTS—THE HESSIAN FLY. S. Dak. Agr. Expt. Sta. Bull. 81: 64-65. 1903.
Brief description; control (from Washburn).
- SAUNDERS, S. (1001)
[HESSIAN FLY, *CECIDOMYIA DESTRUCTOR*.] Ent. Soc. Ontario, Ann Rept. 9: 6. 1879.
Note on disappearance.
- SAUNDERS, W. (1002)
ANNUAL ADDRESS OF THE PRESIDENT OF THE ENTOMOLOGICAL SOCIETY OF ONTARIO. 1878, 1879, 1882, 1883. Canad. Ent. 10: 182, 1878 (also published in Ent. Soc. Ontario, Ann. Rpt. 1878: 6); Canad. Ent. 11: 188-189, 1879 (also published in Ent. Soc. Ontario, Ann. Rpt. 1879: 8, 1880); Canad. Ent. 14: 142-144, 1882 (also published in Ent. Soc. Ontario, Ann. Rpt. 1882: 7-9, 1883); Canad. Ent. 16: 207, 1884.
Fly imported from Europe; injury in Ontario in 1877 (v. 10, p. 182); brief mention, and references to literature (v. 11, pp. 188-189); outbreak in 1881; brief life history; control (v. 14, pp. 142-144); injury by fly during 1883 (v. 16, p. 207).

- SAUNDERS, W.—Continued. (1003)
 NOTES OF THE YEAR. Ent. Soc. Ontario, Ann. Rpt., 1882: 68–69, 1883.
- Review of local conditions in Ontario; extracts from correspondence on weather conditions and infestation.
-
- [HESSIAN FLY.] Ent. Soc. Ontario, Ann. Rpt. 21 (1890): 25, 103, 105. (1004) 1891.
 Review of work by others on fly.
- SAY, T. (1005)
 [LETTER FROM THOMAS SAY TO RICHARD PETERS.] Mem. Phila. Soc. Prom. Agr. 4: 224–228. 1818.
 Distinguishes hessian fly from other insects.
-
- SOME ACCOUNT OF THE INSECT KNOWN BY THE NAME OF THE HESSIAN FLY, AND A PARASITIC INSECT THAT FEEDS ON IT. Acad. Nat. Sci. Phila. Jour. 1: 45–48, 63–64, illus. 1817. (Reprinted in LeConte's edition of Say's Writings 2: 4–7.) (1006)
 Classification and description of *Cecidomyia destructor* and *Ceraphron destructor*, pp. 45–48; note on peculiarity of *Ceraphron destructor*, pp. 63–64; explanation of plate 3 (C. A. LeSueur).
-
- HESSIAN FLY; GRAIN MOTH; CUT WORM. Mem. Phila. Soc. Prom. Agr. 4: 236–237. 1818.
 Letter to Richard Peters discussing oviposition and value of stubble burning.
- SCHIEDT, R. C. (1008)
 REPORT OF THE ENTOMOLOGIST. Pa. State Bd. Agr. Rpt., 1894: 190–195, illus. 1894.
 Brief discussion of injury; life history; control.
- SCHÖYEN, W. H. (1009)
 NOTES ON INSECTS OF NORWAY AND SWEDEN. U.S. Dept. Agr., Div. Ent. Bull. (n.s.) 9: 79–80. 1897.
 Fly listed as pest on barley.
- SEELY, J. (1010)
 NEW WHEAT. Amer. Farmer 6: 27. 1824.
 Extract from letter describing fly-resistant wheat.
- SHAW, N. E. (1011)
 [HESSIAN FLY.] Ohio Dept. Agr. Off. Bull. 9 (1): 36–37. 1917.
 Percentage of injury in various townships.
- SHAW, W. R. (1012)
 HESSIAN FLY IN OKLAHOMA. Okla. Agr. Expt. Sta. Ann. Rpt. (1902) 12: 47–48. 1903.
 Injury to wheat in Kay County; brief popular résumé.
-
- METHODS OF COMBATING THE HESSIAN FLY. Okla. Agr. Expt. Sta. Ann. Rpt. (1904) 13: 57–58. 1904.
 Popular review of control.
- SHERMAN, F. (1014)
 INJURIOUS INSECTS—HESSIAN FLY (*CECIDOMYIA DESTRUCTOR*). N.C. State Bd. Agr. Bull. 22 (6): 10–12, illus. 1901. (Reprinted in N.C. State Bd. Agr. Bull. 24 (6): 11–13, illus. 1903.)
 Appearance in North Carolina; brief description; remedies.
-
- FLY IN WHEAT—HOW TO CONTROL IT. N.C. Dept. Agr. Inform. Bull. 3 (Ent. Circ. 1), 4 pp., illus. 1903.
 Brief popular account.

SHERMAN, F.—Continued.

ENTOMOLOGICAL CONDITIONS IN NORTH CAROLINA—[HESSIAN FLY]. Ent. Soc. Ontario, Ann. Rpt. 36: 24. 1905.
Note on occurrence and control.

(1016)

HESSIAN FLY IN WHEAT. CONTROL METHODS AND SAFE DATES FOR SOWING SEED. N.C. Dept. Agr. Bull. 39, no. 8 (whole no. 247), 32 pp., illus. 1918.

Comprehensive general account; table of standard 10-day periods for sowing wheat in North Carolina; map showing dates of seeding; discussion of Hopkins' plan.

(1017)

PARASITES OF THE HESSIAN FLY. N.C. Agr. Expt. Sta. Ann. Rpt. 47: 76-77. 1924.

Summary of cooperative work by Leiby and Hill.

SHIRREFF, P.

SOME ACCOUNT OF THE WHEAT FLY. Loudon's Mag. Nat. Hist. 2: 448-451. 1829.

General discussion of life history and habits of an insect on wheat at Mungoswells, East Lothian; determination not certain.

SICHEL, J.

[PLATYGASTER, PARASITE OF HESSIAN FLY.] Ent. Soc. France Bull. (3) 4: viii-ix. 1856.

Report [in French] by Sichel of observations by Chas. Bazin on fly and *Platygaster*, and another unidentified parasite; fly injury usually considered as being caused by late frost; parasites more numerous than generally supposed; search for control.

SIMPLE, J.

ON THE HESSIAN FLY AND THE PROPER DEPTH OF SOWING. Amer. Farmer 2: 159, 207. 1820.

Theory on propagation; fly in wheat compared with maggot in pea; control by sowing wheat after a frost.

SLINGERLAND, M. V.

THE DESTRUCTIVE HESSIAN FLY. Rural New Yorker 59: 573-574, illus. 1900.

Popular account; what the hessian fly is; how it increases; how wheat is affected; natural enemies of the pest; means of relief; late sowing.

(1023)

A NEW HESSIAN FLY PROBLEM. Rural New Yorker 59: 814. 1900.

Reply to inquiry from Bluff Springs, Ill., regarding seasonal conditions and development of fly in unusually late warm fall; quotes Webster.

(1024)

HESSIAN FLIES AND RAG WEED. Rural New Yorker 60: 612, 1901.

Fly does not breed in rag weed; use of decoy strips.

(1025)

FACTS ABOUT "FLY-PROOF" WHEAT. Rural New Yorker 60: 627. 1901.

Notes on the resistance of various varieties.

(1026)

ENTOMOLOGY. West. N.Y. Hort. Soc. Proc. 47: 46. 1902.

Discussion of injury by fly in New York State in 1901; control.

(1027)

SPRING WHEAT AND THE HESSIAN FLY. Rural New Yorker 61: 228. 1902.

Reply to inquiry regarding control of fly in New York; advises planting "trap strip."

(1028)

UPS AND DOWNS OF INSECTS. Rural New Yorker 64: 727. 1905.

Periods of increases and decreases.

See also ROBERTS, I. P.

SMITH, H. D.

(1029)
THE HESSIAN PEST A MENACE. Farmer's Mail and Breeze 44: 10. 1913.General popular account; review of The Hessian Fly by T. J. Headlee and J. B. Parker; control.
See also HILL, C. C.

SMITH, J. B.

(1030)

WHEAT INSECTS. N.J. Agr. Expt. Sta. Rpt. 1894: 443. 1894.

Mention of occurrence in favorable season.

(1031)
REPORT OF THE ENTOMOLOGIST.—[HESSIAN FLY.] N.J. Agr. Expt. Sta. Ann. Rpt. 16: 365, 1895; (1896) 17: 431–563, illus., 1897; (1897) 18: 395–492, illus., 1898; (1899) 20: 421–512, illus., 1900; (1900) 21: 490–491, 1901; (1901) 22: 486–488, 1902.

Note on abundance of fly (Rpt. 16); small injury in 1896; reports from northern New Jersey as regards fly (Rpt. 17); no injury by fly in 1897 (Rpt. 18); hessian fly injury in 1899; late sowing beneficial (Rpt. 20); conditions in New Jersey in 1900 (Rpt. 21); conditions in New Jersey in 1901 and investigations by station; control (Rpt. 22).

(1032)
HESSIAN FLY (*CECIDOMYIA DESTRUCTOR SAY*). N.J. Agr. Expt. Sta. Bull. 110: 3–8, illus. 1895. [Reprinted in N.J. Agr. Expt. Sta. Ann. Rpt. 16: 520–526.]

Increase in infestation; description and life history; injury caused; control; parasites.

(1033)
SOME INSECT INVASIONS, AND THE FIGHT AGAINST THEM.—[HESSIAN FLY.] N.J. State Bd. Agr. Ann. Rpt. 37: 186–187, illus. 1910.

Brief account.

SMITH, R. C.

(1034)

A SUMMARY OF THE POPULATION OF INJURIOUS INSECTS IN KANSAS FOR 1931. Jour. Kans. Ent. Soc. 5: 65–91, illus. 1932. [Hessian fly, pp. 83–84.]

(1035)
— and KELLY, E. G. A SUMMARY OF THE POPULATION OF INJURIOUS INSECTS IN KANSAS FOR 1932. Jour. Kans. Ent. Soc. 6: 37–59, illus. 1933. [Hessian fly, pp. 51–52.]

SMITH, R. I.

(1036)

GRASS, GRAIN AND GARDEN INSECTS.—[HESSIAN FLY.] Ga. State Bd. Ent. Bull. 20: 170. 1906.

Notice of infestation in Georgia.

(1037)
SOME GEORGIA INSECTS DURING 1906—GRAIN AND GRASS INSECTS. U.S. Dept. Agr., Bur. Ent. Bull. 67: 102. 1907.

Note on fly.

(1038)
REPORT OF ENTOMOLOGIST.—[HESSIAN FLY.] N.C. Agr. Expt. Sta. Ann. Rpt.: 33: 33. 1910.

Note on appearance.

(1039)
— and LEWIS, A. C. SOME INSECTS OF THE YEAR IN GEORGIA. U.S. Dept. Agr., Bur. Ent. Bull. 60: 81. 1906.

See also NEWELL, W.

Note.

SMITH, R. O.

(1040)

HESSIAN FLY REPORTED. Kans. Farmer and Mail and Breeze 59 (36): 8. 1921.

Fly threatens damage in eastern Kansas; control.

- SNODGRASS, R. E. (1041)
SOME IMPORTANT INSECT PESTS OF INDIANA. Ind. State Ent. Ann. Rpt. 9: 143-145. 1917.
Résumé; life-history chart.
- SNOW, B. W. (1042)
HESSIAN FLY IN KANSAS WHEAT FIELDS. Orange Judd Farmer 60 (25): 6. 1916.
Spread of insect.
- SNOW, F. H. (1043)
INSECTS INJURIOUS TO WHEAT. Kans. State Bd. Agr. Bien. Rpt. 4, v. 9, pp. 607-609, illus. 1885.
Popular account; extracts from reports from 21 infested counties in Kansas; history of fly in United States; habits; control; quotes Packard extensively.
-
- INJURIOUS INSECTS. Kans. State Bd. Agr. Rpt. 1885: 5-11. 1885. (1044)
Estimate of damage by fly in various Kansas counties; general discussion of fly in Kansas; control.
-
- CHINCH BUG. Kans. State Bd. Agr. Bien. Rpt. 5: 153-157. 1887. (1045)
Injury by fly and chinch bug contrasted; injury by fly in Kansas in 1886 "curtailed."
-
- CHINCH BUG DISEASE AND OTHER NOTES. Insect Life 4: 71. 1891. (1046)
Mention of abundance of fly in Kansas.
- SPENCE, W. See KIRBY, W.
- STEDMAN, J. M. (1047)
THE MORE IMPORTANT INSECTS INJURIOUS TO WHEAT IN MISSOURI—THE HESSIAN FLY, CECIDOMYIA DESTRUCTOR SAY. Mo. State Bd. Agr. Ann. Rpt. 34: 75-86, illus. 1902.
Habits and life history; number of broods and causes of variation in number; description of stages; parasites; control.
-
- HESSIAN FLY IN MISSOURI. Mo. Agr. Expt. Sta. Bull. 62, pp. 131-149, illus. 1903. (1048)
Summary; origin; habits and life history; natural enemies; remedies.
- STEWART, P. H. See BURR, W. W.
- STONE, J. L. See ROBERTS, I. P., et al.
- SULLIVAN, K. C. See HASEMAN, L.
- SUMMERS, H. E. (1049)
HESSIAN FLY. Tenn. Agr. Expt. Sta. Spec. Bull. E: 6-8, illus. 1890.
Outbreak in Tennessee; description of stages; control.
-
- HESSIAN FLY CONTINUES WORK OF DESTRUCTION. Iowa Homestead 59: 1129. 1914. (1050)
Description of stages; control.
- SURFACE, H. A. (1051)
ENTOMOLOGICAL MEASURES FOR JULY. Pa. Dept. Agr. Monthly Zool. Bull. 1 (3): 14, illus. 1903.
Mention of injury; notice of Pennsylvania special bulletin on subject.
-
- THE CHIEF INSECTS OF THE MONTH. Pa. Dept. Agr. Monthly Zool. Bull. 1 (4): 17-18. 1903. (1052)
Discussion of fly control.
-
- TIMELY TIPS FOR AUGUST. Pa. Dept. Agr. Monthly Zool. Bull. 2 (4): 101. 1904. (1053)
Brief discussion of fly control.

- SURFACE, H. A.—Continued. (1054)
 WHEAT STUDIES—HESSIAN FLY AND DATE OF SOWING. Pa. Dept. Agr.
 Monthly Zool. Bull. 3 (1): 159–160. 1905.
 Request for information on dates of planting, varieties of wheat sown, etc.
-
- [HESSIAN FLY.] Pa. Dept. Agr. Zool. Bull. 5: 37–39, 52, 56, 352–353, 401.
 1908.
 Notes on control; infestation; brief description. (1055)
-
- REPORT OF THE ECONOMIC ZOOLOGIST. Pa. Dept. Agr. Rpt. 1911 (Off. Doc. 6): 162. 1912.
 Brief report on conditions in Pennsylvania in 1911. (1056)
-
- HESSIAN FLY. Pa. Dept. Agr. Bimo. Zool. Bull. 8: 187. 1911.
 Control. (1057)
-
- WHEAT—SUCKING INSECTS: HESSIAN FLY. Pa. Dept. Agr. Bimo. Zool. Bull. 9: 212–213. 1912.
 Damage in 1911; appearance of injured crop; brief life history; control. (1058)
- SWANSON, C. O. See SALMON, S. C.
- SWENK, M. H. (1059)
 THE PRINCIPAL INSECTS INJURIOUS TO AGRICULTURE DURING 1908–1909—
 [HESSIAN FLY.] Nebr. State Bd. Agr. Ann. Rpt. 1909: 362–363. 1910.
 Brief report of decrease in infestation.
-
- NOTES ON SOME INSECTS INJURIOUS IN NEBRASKA IN 1910. Jour. Econ. Ent. 4: 283–284. 1911.
 Reports extent of injury by fly. (1060)
-
- HESSIAN FLY (MAYETIOLA DESTRUCTOR SAY). Nebr. State Ent. Bull. 1: 63–65. 1913.
 Outbreak in southeastern Nebraska; comparison with damage done in previous years. (1061)
-
- THE IMPORTANT INSECT ENEMIES OF FIELD CROPS IN NEBRASKA AND THEIR CONTROL—ADJUSTMENT OF TIME OF SOWING. Nebr. State Ent. Bull. 3: 6, 7, 15–16, illus. 1913.
 Map indicating dates of safe sowing to avoid fly in a normal year. (1062)
-
- HOW TO COMBAT THE HESSIAN FLY. Nebr. Agr. Expt. Sta. Press Bull. 45, 4 pp., illus. 1914.
 Increase in southeastern Nebraska; life history; injury; control, with map of fly-free dates. (1063)
-
- HESSIAN FLY IN NEBRASKA. Nebr. Farmer 46: 44–45. 1914.
 History in Nebraska; life history. (1064)
-
- CONTROL OF THE HESSIAN FLY. Nebr. Farmer 46: 125. 1914.
 Methods of control. (1065)
-
- HESSIAN FLY IN VOLUNTEER WHEAT. Nebr. Farmer 46: 978. 1914.
 Localities of infestation; remedial measures. (1066)
-
- THE HESSIAN FLY AND HOW TO CONTROL IT. Fed. Reserve Bank of Kansas City Circ. Letter: 1–2 (July 25, 1922). (1067)

SWENK, M. H.—Continued.

INSECT CONTROL—HESSIAN FLY. Nebr. Agr. Expt. Sta. Ann. Rpt. 37: 22-23. 1924.

Counties infested; control; observations on daily counts of emergence; safe-seeding dates, with results.

HESSIAN FLY CONTROL IN NEBRASKA. Nebr. Crop Growers' Assoc. Ann. Rpt. (1923-24) 15: 86-98. 1924.

History, distribution and control of fly in Nebraska.

HESSIAN FLY CONTROL IN NEBRASKA. Nebr. State Bd. Agr. Ann. Rpt. 1923: 286-298, illus. 1924.

Early appearance in America; distribution and history of outbreak in Nebr.; 1923 conditions; life history; control; effect of climatic conditions; conference on 1923 situation; establishment of and method of conducting field station, with result of observations; safe-seeding dates and results.

See also BRUNER, L.

SYMONS, T. B.

INSECTS AFFECTING THE WHEAT—THE HESSIAN FLY (*MAYETIOLA DESTRUCTROR SAY*). Md. Agr. Expt. Sta. Bull. 101: 165-167, illus. 1905.

Brief general account.

and CORY, E. N.

MISCELLANEOUS INSECT PESTS. Md. Agr. Expt. Sta. Bull. 175: 175-176. 1913.

Brief popular account; control by late sowing; table of sowing dates for various localities.

T., A. R., et al.

WHEAT AND HESSIAN FLY. Rural New Yorker 60: 537, 553. 1901.

Notes on conditions from various localities.

TALBERT, T. J.

SOME WORK OF THE EXTENSION ENTOMOLOGIST IN KANSAS AND MISSOURI. Jour. Econ. Ent. 9: 287-290. 1916.

Report of some practical demonstrations on control; description of fly campaign in Missouri.

THEOBOLD, F. V.

SOME NOTABLE INSTANCES OF THE DISTRIBUTION OF INJURIOUS INSECTS BY ARTIFICIAL MEANS. Sci. Prog. Twentieth Cent. 1: 69-70. 1906.

Introduction of the fly into America; not a serious pest in England; natural enemies.

THOMAS, C.

[HESSIAN FLY.] Ill. State Ent. Rpt. 9: 3. 1880.

Mentions injury caused by fly.

PROTECTION AGAINST HESSIAN FLY. Ind. Hort. Soc. Trans. 1881: 81. 1882. Brief discussion of control.

BEST MEANS OF COUNTERACTING INSECT FOES. Ill. State. Hort. Soc. Trans. (n.s.) 15: 44. 1881.

Note on control.

See also RILEY, C. V., et al.

THOMPSON, J.

HESSIAN FLY CONTROL. Wallace's Farmer 58: 386, illus. 1933.

THOMPSON, W. R.

LES CONDITIONS DE LA RÉSISTANCE DES INSECTES PARASITES INTERNES DANS L'ORGANISME DE LEURS HÔTES. Compt. Rend. Soc. Biol. [Paris] 77: 562-564. 1915.

Observations on development of *Polygnotus minutus* Lindm. in fly.

- THORNE, C. E. (1081)
 HESSIAN FLY. HOW LATE MUST WHEAT BE SOWN TO ESCAPE ITS RAVAGES ?
 Ohio Agr. Exp. Sta. Press Bull. 227, 2 pp. 1901.
 General summary.
-
- HESSIAN FLY IN OHIO. Ohio Agr. Expt. Sta. Bull. 136, 24 pp., illus. 1902.
 Historical; relation of rainfall and temperature to fly attack; effect of frost on fly; effect of fertilizers; experiments on date of sowing wheat; description.
-
- A TEN YEAR COMPARISON OF VARIETIES OF WHEAT. Ohio Agr. Expt. Sta. Press Bull. 246: 147. 1902.
 Detailed experimental data on 34 wheat varieties.
-
- HOW TO CIRCUMVENT THE HESSIAN FLY. Ohio Agr. Expt. Sta. Press Bull. 247: 148. 1902.
 Popular discussion of control in Ohio.
-
- HOW TO CIRCUMVENT THE HESSIAN FLY. Prairie Farmer 74 (37): 4. 1902.
 Brief account of control in Ohio by plowing under trap crop.
- THROCKMORTON, R. I. See SALMON, S. C.
- TILGHMAN, E. (1086)
 HESSIAN FLY. Cultivator 8: 82. 1841.
 Report of observations on oviposition of fly and hatching of eggs; larvae, believed to be that of fly, found on grass in Kent County, N.Y.
- TILGHMAN, E., 3d (1087)
 TO THE EDITOR OF THE AMERICAN FARMER. [Letter.] Amer. Farmer 2: 235. 1820.
 Reports finding fly eggs on blades of Lawler wheat.
- TILGHMAN, T. (1088)
 WHITE FLINT WHEAT. Amer. Farmer 7: 203. 1825.
 Report on observations as to fly-resistant qualities.
- TILGHMAN, W. (1089)
 [HESSIAN FLY.] (From an address delivered before the Philadelphia Society for Promoting Agriculture.) Amer. Farmer 2: 138. 1820.
 Advocates statue of gold for observer who will "let us into the nature of that scourge * * * known by the name of the Hessian fly."
- TROOP, J. (1090)
 INSECTS OF THE YEAR. Ind. Agr. Expt. Sta. Ann. Rpt. 8: 20. 1896.
 Brief mention of injury by fly in Indiana in 1895.
-
- HESSIAN FLY IN WHEAT. Farmers' Guide 23: 781. 1911.
 Infestation in northern Indiana; trap crop.
-
- HESSIAN FLY IN INDIANA. Farmers' Guide 26: 695, Ind. Farmer 69 (32): 11-14. 1914.
 Results at different sowing dates; appearance in cycles (Farmers' Guide, p. 695); discussion of injury in Indiana with estimates on annual losses; late sowing; description of stages (Ind. Farmer, pp. 11-14.).
-
- HESSIAN FLY. Farmers' Guide 26: 867. 1914.
 Appearance in cycles; control.
-
- REPORT OF THE ENTOMOLOGICAL DEPARTMENT. Ind. Agr. Expt. Sta. Ann. Rpt. 27: 48-49, 1914; Ann. Rpt. 29: 41-42, 1917; 30: 39-40, 1917; 31: 30, 1918; 32: 34, 1919.
 Brief mention of fly (Rpt. 27); injury by fly in southern part of Indiana (Rpt. 29); injury by fly 1916-17; parasites (Rpt. 30); brief review of work by station on fly during 1917 (Rpt. 31); experimental activities (Rpt. 32).

TROOP, J.—Continued.

(1095)

HESSIAN FLY SITUATION. Purdue Agr. 14: 341. 1920.

Brief report of decrease in 1919 with suggestions on preventives.

TROWBRIDGE, P. F.

(1096)

EXPERIMENT STATION PROGRESS. REPORT FOR THE BIENNIAL, JULY 1, 1923, TO JUNE 30, 1925. N.Dak. Agr. Expt. Sta. Bull. 194: 60. 1926.

Hessian fly, 1926 injury caused by supplementary brood; mention of attempt to correlate fly abundance with rainfall; evidence not conclusive.

TUCKER, E. S.

(1097)

ABOUT SOME INSECTS AND INSECT BOOKS FOR THE FARMER—GRAIN-LICE AND HESSIAN FLIES. Kans. Farmer 43: 147-148, illus. 1905.

Description of fly.

TURNER, A. F.

(1098)

AGAINST THE HESSIAN FLY. Farmers' Mail and Breeze 46 (27): 5. 1916.

Letter from correspondent making appeal for cooperation in fly control.

TO REDUCE FLY INJURY. Farmers' Mail and Breeze 46 (29): 16. 1916.

Defends recommendations of the Kansas Agricultural College on fly control.

TURNER, H. S.

(1100)

AGRICULTURAL PROSPECTS—REVERSED. Amer. Farmer 5: 79-80. 1823.

Destruction of crops by fly.

TURNER, W. F. See LEWIS, A. C.

TYCHO BRAKE.

(1101)

HESSIAN FLY. Farmers' Cabinet 5: 218-219. 1841.

Controversy on control measures.

TYTLER, J.

(1102)

HESSIAN FLY. Encyclopaedia Britannica, Ed. 3 (8): 489-495. 1797.

Habits and effect on grains; origin and spread; importation of American wheat into Great Britain forbidden by proclamation; citation on information obtained by Privy Council, and which led to said proclamation.

UNITED STATES DEPARTMENT OF AGRICULTURE.

(1103)

HESSIAN FLY, WHEAT'S WORST ENEMY, LIKELY TO COME THIS YEAR IN INCREASED HORDES. U.S. Dept. Agr., Weekly News Letter 6 (36): 16, illus. 1919.

Increase in infestations; origin, description, and habits; grains attacked; distribution; reprint of poster on control.

SAFE TIME FOR SOWING WHEAT HELPS HALT THE HESSIAN FLY. U.S. Dept. Agr., Weekly News Letter 7 (6): 1-2. 1919.

Origin; outbreaks; safe sowing dates affected by local conditions; control; no "fly-free wheat."

HESSIAN FLY THREATENS 1920 WINTER WHEAT CROP. U.S. Dept. Agr., Weekly News Letter 7 (26): 3. 1920.

Outbreak in the Mississippi Basin; damage feared in the East; control.

ONCE MORE THE HESSIAN FLY APPEARS IN GROWING WHEAT. U.S. Dept. Agr., Weekly News Letter 8 (34): 1. 1921.

Infestation east of Appalachian Mountains; fly-free date for sowing.

VAUX, J., and JACOB, J.

(1107)

[HESSIAN FLY.] Pa. Packet and Daily Advertiser no. 2980, p. 2. 1788.

Letter from Providence, Montgomery County, Pa., August 16, 1788; various methods of control of fly by farmers; habits of fly; experiences and opinions of various farmers and millers regarding control.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 87

- VAUX, J., and JACOB, J.—Continued. (1108)
 [REPORT ON INVESTIGATIONS RELATIVE TO HESSIAN FLY.] Amer. Mus. [Matthew Carey's] 4: 245-247. 1788.
 Reports observations on oviposition, effect on wheat, and fly-proof varieties of wheat.
- VERRALL, G. H. See RILEY, C. V.
- VINSON, C. G. See HASEMAN, L.
- VROOMAN, C. (1109)
 GRAIN FARMING IN THE CORN BELT. U.S. Dept. Agr., Farmers' Bull. 704, 48 pp., illus. 1916.
 Brief popular account of fly, p. 32.
- W. (1110)
 ENTOMOLOGY—THE WHEAT MIDGE. Gard. Chron. [London] 1847: 604, illus. 1847.
 Damage by fly; habits; note on parasites.
- W., C. H. (1111)
 LETTER ON THE HESSIAN FLY, ADDRESSED TO . . . PRESIDENT OF PHILADELPHIA SOCIETY FOR PROMOTING AGRICULTURE. Amer. Mus. [Matthew Carey's] 11: 301-302. 1792.
 Records arrival of fly in Delaware "in prodigious clouds;" gives effects on wheat; advises steeping seed wheat in "a strong brine, or a decoction of * * * nauseous herbs" as a means of prevention.
- W., W. J. (1112)
 HESSIAN FLY IN OLD STRAW. Natl. Stockman and Farmer 44: 662. 1920.
 Reply to correspondent in Muskingum County, Ohio, regarding use of old straw infested by fly; safe seeding date.
- WADE, J. S., and MYERS, P. R. (1113)
 OBSERVATIONS RELATIVE TO RECENT RECOVERIES OF PLEUROTROPIS EPIGONUS WALKER. Ent. Soc. Wash. Proc. 23: 202-206. 1921.
 Recapitulates briefly the history of the introduction of the hessian fly parasite *Pleurotropis epigonus* Walker, and gives all known records of distribution of recoveries.
- WADE, O. See SANBORN, C. E.
- WADHAMS, S. W. (1114)
 HESSIAN FLY. Country Gent. 66: 740. 1901.
 Control by trap crop.
-
- TRAPS FOR THE HESSIAN FLY. Rural New Yorker 60: 674-675. 1901. (1115)
 Method of using trap crop.
- WADSWORTH, D. (1116)
 LETTER RELATIVE TO THE HESSIAN FLY. [Two letters.] Amer. Mus. [Matthew Carey's] 2: 175-176, 458-459. 1787.
 Report on experiment in steeping seed wheat in water in which elder twigs had been soaked.
- WAGNER, B. (1117)
 OBSERVATIONS ON THE NEW CROP GALL-GNAT, 1861. U.S. Ent. Comm. Rpt. 3, App. 2-b [Hessian fly], pp. [24]-[38]. (Translated from *Untersuchungen über die neue Getreidegallmücken* [Fulda und Hersfeld], 41 pp., illus.) 1883.
 Comparison of *Cecidomyia secalina* Loew with *Cecidomyia destructor* Say. Is name of hessian fly justified? Attempt at new theory on origin; parasites; control; bibliography.
- WALDRON, C. B. (1118)
 THE ARMY WORM AND THE WHEAT FLY. N.D. Agr. Expt. Sta. Ann. Rpt. 7: 20-22. 1896.
 General attack on wheat fields "by either Hessian fly or frit fly."

WALDRON, C. B.—Continued.

DESTRUCTIVE INSECTS OF NORTH DAKOTA. N.Dak. Agr. Expt. Sta. Bull. 34: 293-294. 1898.

Brief description; majority of flies said to escape from pupal cases during the fall.

REPORT OF THE HORTICULTURIST. N.Dak. Agr. Expt. Sta. Rpt. [9]: 47-51. 1899.

Injury by and control of fly.

INJURIOUS INSECTS. N.Dak. Agr. Expt. Sta., Ann. Rpt. 10: 49-50, 1900; 14 (pt. 1): 176-177, 1904.

Report of injury; habits; control (Rpt. 10); life history, remedies; prospects for future damage (Rpt. 14).

HESSIAN FLY IN THE NORTHWEST. Orange Judd Farmer 41 (3): 43. 1906.

Appearance in North Dakota; estimated damage; control.

WHEAT INSECTS. N.Dak. Agr. Expt. Sta. Ann. Rpt. 23: 32. 1913.

Note on fly.

WALLACE, F. N.

REPORT OF THE DIVISION OF ENTOMOLOGY, Ind. Dept. Conserv. Ann. Rpt. 2: 273-284. 1920.

Injury; climatic condition caused variation in time of emergence.

HESSIAN FLY. Ind. State Yearbook, 1920: 282. 1921.

Severe injury; published dates not free from flies.

WALSH, B. D.

INSECTS INJURIOUS TO VEGETATION IN ILLINOIS—THE HESSIAN FLY. Ill. State Agr. Soc. Trans. 4: 344. 1859.

Fly exterminated in Eastern but troublesome in Western States; parasites; comparison with wheat midge; control.

INSECTS INJURIOUS TO VEGETATION IN ILLINOIS. Ill. State Agr. Soc. Trans. 4: 335-372, 1861 (Reprinted in part: Ill. Nat. Hist. Soc. Trans. 1: 149-178. 1862; also in Prairie Farmer: 370-371, Dec. 6, 1861); (1861-64) 5: 485-488. 1865.

Discussion of injury by fly, and parasite *Eurytoma destructor* Say; injury; broods; control by pasturing (Trans. 4); character of injury by fly with that caused by certain other insects (Trans. 5).

ON INSECTS, COLEOPTEROUS, HYMENOPTEROUS, AND DIPTEROUS, INHABITING THE GALLS OF CERTAIN SPECIES OF WILLOW. Ent. Soc. Phila. Proc. 3: 611-612. 1864.

Italian thrips attacking fly (?).

JOINT-WORM. Pract. Ent. 1: 37-38. 1865.

Characteristics of fly.

A NEW HUMBUG. Pract. Ent. 1: 108-110. 1866.

Exposure of fraudulent claim for control of fly.

IMPORTED INSECTS—THE HESSIAN FLY. Pract. Ent. 1: 118-119. 1866.

Discusses importation from Europe, freedom from parasites in relation to rapidity of spread; importation of parasites.

HESSIAN FLY. Pract. Ent. 2: 7. 1866.

Late sowing of more value than trap strips.

- WALSH, B. D.—Continued. (1133)
 THE "FLYING-BUG." Pract. Ent. 2: 9. 1866.
 Reply to inquiry; *Aphodius* mistaken for fly.
- KLIPPART'S WHEAT PLANT. Pract. Ent. 2: 27. 1866. (1134)
 Note on fly in a caustic criticism of Klippart's Wheat Plant.
- [HESSIAN FLY.] Pract. Ent. 2: 74. 1867. (1135)
 Reply to inquiry.
- and RILEY, C. V. (1136)
 HESSIAN FLY. Amer. Ent. 1: 40. 1868.
 Reply to correspondent identifying parasite of fly.
- HESSIAN FLY ON SEED WHEAT. Amer. Ent. 1: 80. 1868. (1137)
 Note on broods and time of transformation.
- UNIVERSAL REMEDIES. Amer. Ent. 1: 97. 1869. (1138)
 Exposure of fraudulent claim for "cure-all" which will destroy fly.
- CHINCH BUG. Amer. Ent. 1: 169. 1869. (1139)
 Includes note on fly.
- WALTON, W. R. (1140)
 HOW TO DETECT OUTBREAKS OF INSECTS AND SAVE THE GRAIN CROPS. U.S. Dept. Agr. Farmers' Bull. 835, 24 pp., illus. 1917. (Revised, 1931; slightly revised, 1932.)
 Hessian fly—life history, control, pp. 3-6.
- HESSIAN FLY AND HOW TO PREVENT LOSSES FROM IT. (1141) U.S. Dept. Agr. Farmers' Bull. 1083, 16 pp., illus. 1920.
 Economic importance; regions where fly is most injurious; nature of injury; life history; description and location of various stages; effect on wheat; the so-called bioclimatic law and its application in fly control; natural enemies; control.
- and PACKARD, C. M. (1142)
 HESSIAN FLY AND HOW LOSSES FROM IT CAN BE AVOIDED. U.S. Dept. Agr. Farmers' Bull. 1627, 14 pp., illus. 1930.
 General popular account; emphasis on control.
- WARBURTON, C. (1143)
 ANNUAL REPORTS OF ZOOLOGIST [1922-1923]. Roy. Agr. Soc. England Jour. 83: 253-260, 1922; 84: 362-371, illus., 1923.
 Injury by fly (Rept. 83); life history, habits, and control (Rpt. 84).
- WARDEN, H. P. (1144)
 HESSIAN FLY. Ohio Bd. Agr. Ann. Rpt. (1855) 10: 166. 1856.
 Injury by fly in Knox County in 1855.
- WARVILLE, J. P. B. DE (1145)
 NEW TRAVELS IN THE UNITED STATES OF AMERICA, PERFORMED IN 1788. (Transl. from French.) 483 pp. Dublin. 1792.
 Hessian fly, pp. 240-241. Account of discussion of hessian fly at meeting of Pennsylvania Agricultural Society September 2, 1788; ban on shipment of wheat from America to England; discussion by farmers of fly injury.
- WASHBURN, F. L. (1146)
 INSECTS NOTABLY INJURIOUS IN 1902—THE HESSIAN FLY (*CECIDOMYIA DESTRUCTOR*, SAY). Minn. Agr. Expt. Sta., Div. Ent. Bull. 77, 7 pp., illus. 1902. Appearance and life history; losses; parasites; control.

WASHBURN, F. L.—Continued. (1147)
 THE HESSIAN FLY. Minn. State Ent. Ann. Rpt. 8: 1–11, illus. 1903.
 Report on conditions; distribution map for Minnesota; records of weather; life history notes for Minnesota; control; host plants.

HESSIAN FLY REARED IN LABORATORY. Canad. Ent. 35: 316. 1903. (1148)
 Brief observations on development.

DISTRIBUTION OF CHINCH BUG IN MINNESOTA. U.S. Dept. Agr., Div. Ent. Bull. (n.s.) 40: 32–34. 1903. (1149)
 Blame for injury by fly now attributed to chinch bug, p. 34.

INJURIOUS INSECTS OF 1904. Minn. State Ent. Ann. Rpt. 9: 13–14. 1904. (1150)
 Extent of injury by localities.

INJURIOUS INSECTS IN MINNESOTA IN 1904. U.S. Dept. Agr., Bur. Ent. Bull. 52: 55–56. 1905. (1151)
 Note on decline in fly infestation, pp. 55–56.

DIPTERA OF MINNESOTA. Minn. Agr. Expt. Sta. Div. Ent. Bull. 93: 19, 60–64, illus. 1905. Also in Minn. State Ent. Ann. Rpt. 10: 60–64. (1152)
 Damage; control.

INJURIOUS INSECTS OF 1905 IN MINNESOTA. U.S. Dept. Agr., Bur. Ent. Bull. 60: 84–89. 1906. (1153)
 Brief note on hessian fly, p. 84.

WATERS, H. J. (1154)
 KILL THE VOLUNTEER WHEAT. Farmers' Mail and Breeze 45 (43): 19. 1915.
 Stresses control by destruction of volunteer wheat.

WEBSTER, F. M. (1155)
 HESSIAN FLY. Purdue Univ. School Agr. Bull. 1, 10 pp., illus. 1885.
 Description of male, female, and various stages; habits and number of broods; control.

PROCEEDINGS OF THE ENTOMOLOGICAL CLUB OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. Canad. Ent. 22: 213. 1890. (1156)
 Notice of paper by J. Fletcher on fly.

WHEAT MIDGE, DIPLOSIS TRITICI KIRBY. Ohio Agr. Expt. Sta. Bull. 4 (5): 106–114. 1891. (1157)
 Contains compilation of records of injury both by wheat midge and by hessian fly in given counties in Ohio, 1847 to 1878, inclusive.

HESSIAN FLY (CECIDOMYIA DESTRUCTOR SAY). Ohio Agr. Expt. Sta. Bull. (ser. 2) 4 (7): 135–138, illus. 1891. (1158)
 Description; early history; oviposition; number and development of broods; effect of larvae on the plants; effect of weather on development of fall brood; control.

OBSERVATIONS ON INJURIOUS AND OTHER INSECTS OF ARKANSAS AND TEXAS. Insect Life 3: 451–455. 1891. (1159)
 Occurrence of *Meromyza americana*, often confused with hessian fly, in Texas, p. 453.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 91

- WEBSTER, F. M.—Continued. (1160)
EARLY PUBLISHED REFERENCES TO SOME OF OUR INJURIOUS INSECTS, II. Insect Life 4: 324-325. 1892.
Discusses some early papers on fly; supplements certain observations by Packard in third report of the United States Entomological Commission.
- INSECTS WHICH BURROW IN THE STEMS OF WHEAT. Ohio Agr. Expt. Sta. Bull (ser. 2) 5 (4): 59. 1892.
Mention of fly; discussion of some parasites of fly. (1161)
- HESSIAN FLY. Ohio Farmer 81 (11): 201; 82 (19): 290, illus., 1892; 84 (12): 221, 1893; 92 (10): 157, 1897.
Reply to correspondent from Montgomery County, Ohio, recommending that infested field be sown to oats in spring; compares conditions with Wayne County, Ind. (v. 81, p. 201); reply to correspondent discussing origin, introduction, life history and habits, and control by safe sowing dates; out of season rearing records (v. 82, p. 290); identity of fly in material submitted; general discussion of relation of good farming to fly control, "the fly is to a field of poor wheat what lice are to poor cattle" (v. 84, p. 221); life history and habits, and map showing dates of safe sowing in Ohio (v. 92, p. 157). (1162)
- INSECT FOES OF AMERICAN CEREAL GRAINS, WITH MEASURES FOR THEIR PREVENTION OR DESTRUCTION. Insect Life 6: 146-151, illus. 1893. (Reprinted in Ohio Agr. Expt. Sta. Bull. 4 (ser. 2), v. 6 no. 4, (whole no. 51), pp. 131-134, illus; also in Ent. Soc. Ontario, Ann. Rpt. 24: 88-93. 1894.) Discussion on life history and effect of latitude on number of broods. (1163)
- SOME INSECT IMMIGRANTS IN OHIO. Ohio Agr. Expt. Sta. Bull. 51: 118-129, illus. 1893.
Brief note on early movements of hessian fly, p. 120. (1164)
- BIOLOGICAL NOTES ON REARED PARASITIC HYMÉNOPTERA OF OHIO AND INDIANA, WITH DESCRIPTIONS OF THIRTEEN NEW SPECIES, BY W. H. ASHMEAD. Jour. Cincinnati Soc. Nat. Hist. 17: 39, 43-44. 1894.
Review, with brief notes on hessian fly parasites *Merisus subapterus* Riley, *Polygnotus hiemalis* Forbes, and *Tetrastichus productus* Riley. (1165)
- INSECTS OF THE YEAR IN OHIO. U.S. Dept. Agr., Div. Ent. Bull. (n.s.) 2, 84-91, illus. 1895.
Outbreak of fly in Ohio, pp. 84-85. (1166)
- HESSIAN FLY IN INDIANA. Ohio Farmer 87 (23): 457. 1895.
Reply to correspondent at Converse, Ind., identifying material submitted as fly, and recommending wheat sowing after September 20; rotation to corn also recommended. (1167)
- REPORT ON THE INTRODUCTION AND DISSEMINATION OF INJURIOUS INSECTS. Ohio State Hort. Soc. Ann. Rpt. (1895-96) 29: 190-195, illus. 1896.
Mention of supposed introduction from Europe. (1168)
- ADDRESS IN STATE FARMERS' INSTITUTE ON JANUARY 12. Ohio State Bd. Agr. Ann. Rpt. 1896: 493-495, illus. 1897.
Stages of development of fly; safe dates for sowing wheat. (1169)
- DETECTING HESSIAN FLY. Ohio Farmer 94 (22): 487. 1898.
Reply to correspondent giving information on detecting presence of fly in field and on identifying larva. (1170)

WEBSTER, F. M.—Continued.

(1171)

THE LAISSEZ-FAIRE, OR LET-ALONE POLICY AS APPLIED TO THE CONTROL OF INSECT PESTS. Ohio State Hort. Soc. Ann. Rpt. 33: 73. 1899.

REPORT OF COMMITTEE ON ENTOMOLOGY—[HESSIAN FLY]. Ohio State Hort. Soc. Ann. Rpt. 33: 107. 1899.

(1172)

Notice of abundance; statement, on authority of Fletcher, that fly is single-brooded in Manitoba.

HESSIAN FLY, *CECIDOMYIA DESTRUCTOR SAY*. Ohio Agr. Expt. Sta. Bull. 107, pp. 257-288, illus. 1899.

(1173)

Description; history; number of broods; experiments and observations in Indiana and Ohio; oviposition; effect of weather on development of fall brood; preventive measures; control; parasites.

FALL TREATMENT OF WHEAT FIELDS WHERE CROP HAS BEEN DESTROYED BY HESSIAN FLY. Ohio Agr. Expt. Sta. Press Bull. 200: 1-2. 1899.

(1174)

Suggestions for fall treatment of infested fields.

MALLY, C. W., and NEWELL, W. INSECTS OF THE YEAR IN OHIO. U.S. Dept. Agr., Bur. Ent. Bull. (n.s.) 20: 68-73, 1899; 26: 84-90, 1900; 31: 84-90, 1902.

(1175)

Fly abundant in early sown fields; possible spring migration of females from early to late sown fields, Bull. 20, p. 69; fly injury in Ohio in 1900; losses computed in bushels and dollars, Bull. 26, p. 84; situation in 1900-1901, including parasites, Bull. 31, p. 85.

SOME INSECT NOTES. Ent. News 11 (4): 438-439. 1900.

(1176)

Notes on injury by fly.

METEOROLOGICAL INFLUENCES ON THE DEVELOPMENT OF THE HESSIAN FLY. Prom. Agr. Sci. Proc. 21, 6 pp., illus. 1900.

(1177)

Popular discussion of relation of development to weather conditions in various localities with particular reference to conditions in different sections of Ohio; map showing sowing dates.

HESSIAN FLY IN OHIO IN 1899 AND 1900. Ohio Agr. Expt. Sta. Bull. 119, pp. 239-247, illus. 1900.

(1178)

Causes of present attack; magnitude of destruction; weather conditions leading to attack; practical control measures.

INQUIRIES ANSWERED. [HESSIAN FLY IN THE SPRING.] Ohio Farmer 97 (8): 174. 1900.

(1179)

Reply to correspondent in Jay County, Indiana, giving detailed life history and habits of fly in spring.

HESSIAN FLY IN NORTHEASTERN OHIO. Ohio Farmer 97 (20): 438. 1900.

(1180)

Specific recommendations from Trumbull County, Ohio, to defer sowing until after middle of September; comments on article in recent issue of paper on spring work and spring problems, and discusses the relation of these to fly control; dates of seeding and precipitation.

FROM QUERIES REGARDING WHEAT INSECTS. Ohio Farmer 98 (19): 345. 1900.

(1181)

General discussion of the difficulty experienced by the farmer in identifying fly.

SPRING TREATMENT OF FIELDS WHERE WHEAT HAS BEEN DESTROYED BY THE HESSIAN FLY. Ohio Agr. Expt. Sta. Press Bull. 207: 1-2. 1900.

(1182)

Suggestions for spring treatment of infested fields.

- WEBSTER, F. M.—Continued. (1183)
ENEMIES OF THE HESSIAN FLY. Ohio Farmer 99 (13): 290. 1901.
 Brief popular discussion of parasites of the fly.
-
- HESSIAN FLY IN THE MIDDLE WEST.** Rural New Yorker 60: 219. 1901.
 Brief popular discussion of experiments with parasites of fly. (1184)
-
- WHEAT AND HESSIAN FLY.** Rural New Yorker 60: 537, 553. 1901.
 Notes on conditions from various localities. (1185)
-
- A PROMISING DESTROYER OF THE HESSIAN FLY.** Farm and Field 67 (12): 428. 1901.
 Brief popular discussion of effect of parasitism in fly control. (1186)
-
- WINDS AND STORMS AS AGENTS IN THE DIFFUSION OF INSECTS.** Amer. Nat. 36: 795-801. 1902.
 Fly diffused by wind. (1187)
-
- SOME INSECT NOTES OF THE YEAR.** U.S. Dept. Agr., Div. Ent. Bull. (n.s.) 40: 93-96. 1903.
 Note on effect of late sowing in Indiana and Illinois; red rust of wheat more liable to attack fly-infested plants, pp. 95-96.
-
- INSECT PESTS OF PLANTS AND THEIR EFFECT ON AMERICAN AGRICULTURE.** Farmers' Natl. Cong. U.S. (Niagara Falls), Proc. 23. Sept.: 112-113. 1903.
 Popular résumé; control by rotation and late seeding; discusses control experiments in various localities. (1188)
-
- HESSIAN FLY.** Nebr. Farmer 37: 92. 1905.
 Recommendation that Professor Bruner be allowed to supplement work done in Nebraska. (1189)
-
- EARLY HISTORY OF THE HESSIAN FLY IN AMERICA.** Soc. Prom. Agr. Sci. Proc. 26: 110-117. 1905.
 Summary of principal historical and biological data bearing on accidental introduction of fly into the United States from southern Europe some time prior to 1776; possible cause of diffusion over the United States. (1190)
-
- FARM PRACTICE IN THE CONTROL OF FIELD-CROP INSECTS.** U.S. Dept. Agr. Yearbook 1905: 465-476, illus. 1906.
 Dealing with the hessian fly, pp. 474-475. Different methods of control in winter-wheat and in spring-wheat regions. (1191)
-
- INSECTS INJURIOUS TO CEREAL AND FORAGE CROPS.** U.S. Dept. Agr. Yearbook 1905: 633-634, 1906.
 Outbreak of fly in Kentucky and Tennessee in 1905; parasites; fly on increase in Virginia, Ohio, western Pennsylvania, southern Michigan, and other spring-wheat regions. (1192)
-
- HESSIAN FLY.** U.S. Dept. Agr., Bur. Ent. Circ. 70, 16 pp. 1906.
 Early history in America; description of stages; life history; food plants; effect of larva on plant; meteorological effects; natural enemies; control. (1193)
-
- INSECTS INJURIOUS TO CEREAL AND FORAGE CROPS.** U.S. Dept. Agr. Yearbook 1906: 509-510. 1907.
 Fly conditions in the United States in 1906; benefit of parasites, notably *Polygnotus*; parasite introduction, p. 509. (1194)

WEBSTER, F. M.—Continued.

(1196)

THE VALUE OF INSECT PARASITISM TO THE AMERICAN FARMER. U.S.Dept.Agr.
Yearbook 1907: 243–246, 252, 253, illus. 1908.Popular discussion of relation of *Polygnotus* and fly.

(1197)

THE PRINCIPAL INJURIOUS INSECTS OF THE YEAR 1907. U.S.Dept.Agr. Yearbook 1907: 542. 1908.

Reports on outbreak of fly in Oklahoma, Kansas, and western Washington; parasites scarce.

(1198)

VALUE OF PARASITES IN CEREAL AND FORAGE CROP PRODUCTION. U.S.Dept.Agr. Bur. Ent. Bull. (n.ser.) 67: 95. 1907.

Résumé of data on more important fly parasites.

(1199)

[POLYGNOTUS AND THE HESSIAN FLY] VALUE OF INSECT PARASITISM TO THE AMERICAN FARMER. U.S.Dept.Agr. Yearbook 1907: 243–246, illus. 1908.

Control of fly in autumn by *Polygnotus hiemalis* Forbes; peculiar breeding habits of this parasite.

(1200)

INSECTS AFFECTING CEREAL AND FORAGE CROPS. U.S.Dept.Agr. Yearbook 1907: 542–543. 1908.

Brief note on outbreaks of hessian fly in Oklahoma, southern Kansas, and western Washington.

(1201)

INSECTS AFFECTING CEREAL AND FORAGE CROPS. U.S.Dept.Agr. Yearbook 1908: 568–570. 1909.

Fly outbreak in Kansas, Oklahoma, and Oregon; injury; experimental sowings; fly attacking quack grass (*Agropyron smithii*), p. 568.

(1202)

SOME THINGS THAT THE GROWER OF CEREAL AND FORAGE CROPS SHOULD KNOW ABOUT INSECTS. U.S.Dept.Agr. Yearbook 1908: 367–388, illus. 1909.

Fully developed fly is noninjurious; method of reproduction, pp. 371–372, 373; influence of weather, pp. 385–387.

(1203)

THE FARMER AND THE HESSIAN FLY. Breeder's Gaz. 66: 189. 1914.

Brief popular discussion.

(1204)

HESSIAN FLY. U.S.Dept.Agr. Farmers' Bull. 611, 39 pp., illus. 1914.

Origin; spread throughout the United States; life history; control, pp. 12–16.

(1205)

HOW THE FARMER CAN DETECT THE HESSIAN FLY IN HIS WHEATFIELDS IF IT IS PRESENT. Weekly News Letter to Crop Correspondents 2 (12): 1, illus. 1914.

Brief popular discussion.

(1206)

HESSIAN FLY. U.S.Dept.Agr. Farmers' Bull. 640: 20 pp., illus. 1915.

Early history in America; description; where to find the different stages; life history; distribution; food plants; effect of larva on plant; meteorological effects; natural enemies; control.

(1207)

FIGHT HESSIAN FLIES. FLY NOW DAMAGING WHEAT—HOW TO ELIMINATE IT FROM NEXT YEAR'S CROP—COOPERATION BETWEEN FARMERS ESSENTIAL. Weekly News Letter to Crop Correspondents 2 (48): 1–3, illus. 1915.

Brief statement of injury 1914–15; recommended control; organization of control campaigns; map indicating safe sowing dates; illustrated seasonal history chart.

AN ANNOTATED BIBLIOGRAPHY OF THE HESSIAN FLY 95

- WEBSTER, F. M., and KELLY, E. O. G. (1208)
HESSIAN FLY SITUATION IN 1915. U.S. Dept. Agr., Off. Sec. Circ. 51, 10 pp., illus. 1915.
Brief popular résumé of conditions.
- THE SPRING GRAIN APHIS OR "GREEN BUG" IN THE SOUTHWEST AND THE POSSIBILITY OF AN OUTBREAK IN 1916. U.S. Dept. Agr. Circ. 55, 3 pp., illus. 1916. (1209)
Certain control measures also useful in control of fly.
- and KELLY, E. O. G. (1210)
STARVE THE HESSIAN FLY. U.S. Dept. Agr., Bur. Ent. Unnumbered Pub. 1916.
Illustrated presentation in poster form of recommendations on fly control for popular use.
- WEBSTER, R. L. (1211)
HESSIAN FLY IN IOWA. Iowa Agr. 14: 561. 1914.
Outbreak in 1914; life history; periods of infestation; control.
- HESSIAN FLY. Iowa Agr. Expt. Sta. Circ. 22, 4 pp., illus. 1915. (1212)
Nature of injury; stages of insect; food plants; seasonal history; control.
- INSECT PESTS OF THE NORTHWEST. Dakota Farmer 45: 146, 168, illus. 1925. (1213)
Injury to wheat, rye and barley in North Dakota; control; injury mistaken for hail damage.
- INSECTS AFFECTING STEMS OF WHEAT AND OTHER SMALL GRAINS IN NORTH DAKOTA. N. Dak. Agr. Expt. Sta. Cir. 25, 20 pp., illus. 1925. (1214)
Abundance of hessian fly; nature of injury; stages; food plants; seasonal history; control; map of injury, pp. 15-20.
- HESSIAN FLY. N. Dak. Agr. Expt. Sta. Bull. 194: 60, illus. 1926. (1215)
Report of situation in North Dakota; injury to spring wheat.
- WEED, C. M. (1216)
ENTOMOLOGISTS IN CONVENTION. Prairie Farmer 57 (36): 567. 1885.
Quotes Riley on injury by fly in New York State.
- HESSIAN FLY. CECIDOMYIA DESTRUCTOR, SAY. Prairie Farmer 57: 587, illus. 1885. (1217)
Brief account of natural history and remedies.
- HESSIAN FLY. Prairie Farmer 59 (45): 710. 1887. (1218)
Review of Illinois State Entomology Bulletin 3, on hessian fly, by S. A. Forbes; quotes control recommendation.
- INSECT TALKS NO. 16—THE HESSIAN FLY. Natl. Stockman and Farmer 15 (23): 548, illus. 1891. (1219)
Brief popular discussion; natural enemies; control.
- INSECT TALKS—NO. 20. Natl. Stockman and Farmer 16 (14): 323. 1892. (1220)
Brief note on fly.
- WELLS, T. W. (1221)
HESSIAN FLY. Cultivator 8 (8): 131. 1841.
Letter to editor from Calhoun County, Mich., reporting first injury by fly in 1839; outbreak described; reports on sowing at different dates from October 1 until frost.

- WHITEHEAD, C., and GRAY, C. W. (1222)
 REPORT ON THE HESSIAN FLY. REPORT OF COMMISSIONERS APPOINTED BY THE GOVERNMENT TO INQUIRE INTO THE PRESENT VISITATION OF THE HESSIAN FLY ON CORN CROPS IN GREAT BRITAIN. 11 pp. London. 1887.
 Appearance; area of infestation; origin in Great Britain; immunity of certain varieties of corn; life history; control; parasites.
- WIANCKO, A. T., and FISHER, M. L. (1223)
 WINTER WHEAT. COMBATING THE HESSIAN FLY AND OTHER ENEMIES OF GROWING WHEAT. Ind. Agr. Expt. Sta. Bull. 114: 308. 1906.
 Brief discussion of control measures.
- WICKSON, E. J. (1224)
 HESSIAN FLY AND RESISTANT GRAINS. Calif. Agr. Expt. Sta. Bull. 58, 1 p. 1886.
 Brief account of experiments in 1885 with resistant varieties of wheat, and time of sowing.
- HESSIAN FLY AND RESISTANT GRAINS. Calif. Agr. Expt. Sta. Bull. 72, 1 p. 1887. (1225)
 Report of second year's experiment with resistant varieties of wheat; effect of time of sowing.
- REPORT ON INSTRUCTION GIVEN IN ECONOMIC ENTOMOLOGY, EXPERIMENTS CONDUCTED, ETC.—THE HESSIAN FLY AND RESISTANT GRAINS. Calif. Agr. Col. Bd. Regents, Bien. Rpt. Sup. App. 4: 141-148. 1887.
 Experiments to determine resistance of varieties of grain; late and early sowing; joint worm.
- HESSIAN FLY. Pacific Rural Press 57 (25): 386. 1889. (1227)
 Outbreak and early history in California; control; resistant varieties of wheat.
- WILCOX, E. V. (1228)
 BURYING THE HESSIAN FLY. Country Gent. 86: 17, 28. 1921.
 Distribution in the United States; control in Kansas; fly-free dates for various States; introduction from Europe.
- WILLIAMS, C. G. (1229)
 HESSIAN FLY. Ohio Agr. Expt. Sta. Bull. 362: xxix-xxx. 1922.
 Results of control measures in Ohio; brief report on relation of seeding date to average percentage of infestation.
- WHEAT INSECT SURVEY. Ohio Agr. Expt. Sta. Bull. 373: 37-39. 1923. (1230)
 Report on control in Ohio, showing decrease in infestation.
- FORTY-FIRST ANNUAL REPORT OF THE OHIO AGRICULTURAL EXPERIMENT STATION. 59 pp. 1922. (1231)
 Average infestation for 1922 was 177, as compared with 447 in 1920.
- WILLIAMSON, W. (1232)
 FALL TREATMENT FOR INSECT PESTS OF FIELD CROPS. Minn. Insect Life [St. Paul] 4 (5): 3. 1917.
 Control by burning stubble after harvest.
- WILSON, C. C. See CARTWRIGHT, W. B.
- WILSON, J. P. (1233)
 [AGRICULTURAL REPORT.] Amer. Farmer 6: 83. 1824.
 Fly found in Cumberland County, Va.
- WINDHORST, F. (1234)
 HESSIAN FLY CONTROL. Kans. State Bd. Agr. Bien. Rpt. (1925-26) 30: 103. 1926.
 Control by early plowing and perfectly clean seed bed; seeding September 8 to 25.

WISTAR, C. See JEFFERSON, THOS., et al.

WOLFE, T. K. See ELLETT, W. B.

WOOD, D. J. (1235)

HESSIAN FLY. *Nébr. Farmer* 37 (31): 736. 1905.

Reports on injury; successful control by use of various seeding dates.

WOODBURY, C. G. (1236)

HESSIAN FLY. *Ann. Rpt. 32 Ind. Agr. Expt. Sta.*: 34. 1919.

Report on season's work and general condition.

WOODS, W. (1237)

PROSPECT OF CROPS. *Amer. Farmer* 9: 83. 1827.

Occurrence in Albemarle County, Va.

WOODWORTH, C. W. (1238)

VARIATION IN HESSIAN FLY INJURY. *Calif. Agr. Expt. Sta. Rpt.* 1890: 312-318. 1891.

Observations during 1886-91; table showing injury to wheat; resistant varieties of wheat; early and late varieties of wheat; date of planting.

A SYNOPSIS OF THE FAMILIES OF INSECTS. *Calif Agr. Expt. Sta. Rpt.* 1891-92: 306. 1892.

Brief mention in synopsis; character of injury indicated.

WORSHAM, E. L., and LEWIS, A. C. (1240)

HESSIAN FLY IN GEORGIA. *Ga. State Bd. Ent. Circ.* 7, 8 pp., illus. 1908.

Early history and distribution; description of different stages; effect of cold; life history in Georgia; remedies.

INSECTS OF THE YEAR IN GEORGIA. *Jour. Econ. Ent.* 2: 208-209. 1909.

Brief note on fly.

WORTH, J. (1242)

ON THE HESSIAN-FLY, AND ON THE PROPER DEPTH OF SOWING WHEAT. *Amer. Farmer* 2: 180-181. 1820.

Report of observations on fly; history of insect and its larvae; control.

ON THE HESSIAN FLY. *Amer. Farmer* 3: 187-190. 1821.

General popular account; early history in America; seasonal history in 1820 in Bucks County, Pa.; discussion of cultural conditions.

ON THE HESSIAN FLY AND PROPER COURSE OF CROPS. *Amer. Farmer* 3: 213-214. 1821.

Observations supplementary to previous article on life history and habits in relation to cultural conditions in Bucks County, Pa.; discussion of various rotations.

HESSIAN FLY—DISEASES OF WHEAT, ETC. *Amer. Farmer* 4: 394. 1823.

Letter to editor discussing previous fly correspondence.

OBSERVATIONS ON INSECTS. *Amer. Farmer* 4: 395. 1823. (1246)

Calculation on increase of fly.

ON THE FAILURE OF WHEAT CROPS, AND THE INSECT BY WHICH THEY ARE ASSAILED. *Mem. Pa. Agr. Soc.* 1823: 165-174. 1823.

Control; description.

HESSIAN FLY. [LETTER TO R. VAUX, SECRETARY TO PHILADELPHIA SOCIETY FOR PROMOTION OF AGRICULTURE.] *Farmers' Cabinet* 2: 42-43. 1837.

Life history; control.

WORTH, J.—Continued.

(1249)

OBSERVATIONS ON INSECTS. Farmers' Cabinet 2: 149. 1837.

Calculation on increase of fly.

HESSIAN FLY AND OTHER WHEAT INSECTS. Farmers' Cabinet 5: 267-268. 1841.

Introduction; description of stages; control; criticism on observations of Miss Morris.

WYNKOOP, H.

(1251)

[ON THE HESSIAN FLY.] Amer. Mus. [Matthew Carey's] 4: 247. 1788.

Letter to president of the Agricultural Society, giving results of experiment made to avoid destructive effects of fly.

X

(1252)

[LETTER TO] MR. HUMPHREY'S. Pa. Mercury and Universal Advertiser no. 33: 2. April 1, 1785.

Brief discussion of resistant varieties of wheat; bearded wheat recommended because it is harder and stronger.

YARNELL, R.

(1253)

TO INCREASE FARM PROFITS. NEW METHODS INSURE LARGER CROP YIELDS. Kans. Farmer and Mail and Breeze 58 (39): 14. 1920.

Description of fly section in insect control booth at Kansas State Fair a Topeka in 1920.

BOYS JOIN ANTI-BUG BRIGADE. Kans. Farmer 60 (11): 6. 1922.

(1254)

Brief popular discussion of teaching insect control, including control of fly.

WORLD WAR ON INSECTS HERE. IN THIS TERRIFIC STRUGGLE FOR EXISTENCE BETWEEN MAN AND BUGS, THE KANSAS STATE AGRICULTURAL COLLEGE IS ACCORDED DOMINATING LEADERSHIP. Kans. Farmer 60 (50): 6. 1922.

Brief popular discussion of work on fly by the Kansas State Station.

YOUNG, A.

(1256)

PROCEEDINGS OF HIS MAJESTY'S MOST HONOURABLE PRIVY COUNCIL, AND INFORMATION RECEIVED, RESPECTING AN INSECT SUPPOSED TO INFEST WHEAT OF THE TERRITORIES OF THE UNITED STATES OF AMERICA. Ann. Agr. Bury St. Edmund's 11: 406-613. 1789.

Gives communications from American Consul at Philadelphia, the President of the Royal Society, and others on the possibility of importing fly in cargoes of wheat, together with minutes of privy council and reports touching on the question.

CHRONOLOGICAL INDEX

	Citation no.		Citation no
1759-----	297, 490	1883-----	130, 396, 867, 934, 935, 1002, 1003, 1117
1764-----	298	1884-----	396, 397, 487, 583, 1002
1785-----	1252	1885-----	56, 281, 365, 396, 398, 399,
1787-----	1, 167, 194, 781, 782, 1116	1886-----	488, 489, 686, 687, 1043, 1044, 1155, 1216, 1217
1788-----	2, 3, 4, 783, 794, 920, 1107, 1108, 1145, 1251	1887-----	57, 129, 306, 363, 366, 367, 612, 689, 763, 834, 835, 836, 837, 838, 938, 939, 940, 1045, 1218, 1222, 1225, 1226.
1789-----	123, 181, 1256	1888-----	307, 308, 402, 584, 690, 737, 839, 840, 844, 941, 942, 943, 944, 945, 946, 947
1792-----	530, 614, 1111, 1145	1889-----	368, 403, 404, 649, 691, 841, 948, 949, 1227
1797-----	760, 1102	1890-----	369, 370, 405,
1798-----	640	1891-----	406, 407, 650, 842, 950, 951, 952, 953, 1049, 1156
1799-----	216	1892-----	411, 432, 629, 630, 644, 692, 963, 964, 965, 1160, 1161, 1162, 1220, 1239
1800-----	641	1893-----	412,
1801-----	531, 775	1894-----	585, 692, 703, 966, 967, 968, 969, 1162, 1163, 1164
1804-----	776	1895-----	113, 432, 645, 654, 715, 741, 1008, 1030, 1163, 1165 586, 587, 588, 589, 704, 743, 971, 972, 1031, 1032, 1166, 1187
1817-----	111, 116, 677, 773, 1006	1896-----	374, 376, 430, 705, 706, 716, 847, 948, 973, 1031, 1090, 1118, 1168
1818-----	117, 774, 1005, 1007	1897-----	247, 375, 376, 590, 591, 742, 1009, 1031, 1162, 1169 114,
1819-----	5, 6, 125, 205, 694, 765, 814	1898-----	58, 59, 219, 320, 377, 590, 591, 620, 621, 622, 623, 849, 1031, 1119, 1170
1820-----	7, 8, 9, 10, 11, 439, 718, 766, 925, 1021, 1087, 1089, 1242	1899-----	127, 278, 321, 346, 347, 348, 378, 379, 380, 381, 382, 624, 707, 710, 744, 901, 1031, 1120, 1171, 1172, 1173, 1174, 1175.
1821-----	1243, 1244	1900-----	* 60, 115, 143, 195, 220, 321, 322, 323, 334, 382, 383, 571, 572, 646, 695, 717, 745, 846, 898, 1022, 1023, 1031, 1121, 1175, 1176, 1177, 1178, 1179, 1180, 1181, 1182.
1822-----	12, 13, 482, 643	1901-----	61,
1823-----	14, 15, 16, 17, 18, 132, 206, 559, 799, 985, 1100, 1245, 1246, 1247	1902-----	62, 324, 325, 326, 327, 328, 329, 384, 385, 394, 395, 433, 449, 450, 592, 607, 608, 615, 625, 696, 698, 746, 918, 922, 974, 1014, 1024, 1025, 1031, 1073, 1081, 1114, 1115, 1183, 1184, 1185, 1186.
1824-----	19, 145, 570, 929, 1010, 1233	1903-----	63, 189, 330, 331, 332, 333, 349, 384, 434, 604, 626, 697, 780, 916, 994, 1026, 1027, 1031, 1047, 1082, 1083, 1084, 1085, 1146, 1175, 1187.
1825-----	20, 21, 22, 23, 24, 25, 207, 499, 576, 1088	1904-----	334, 335, 336, 384, 386, 387, 421, 435, 696, 850, 851, 917, 918, 1000, 1012, 1014, 1015, 1048, 1051, 1052, 1147, 1148, 1149, 1188, 1189.
1826-----	26, 27, 28, 29, 30, 161, 188, 603, 711	1905-----	131, 151, 152, 384, 455, 479, 695, 696, 809, 1013, 1053, 1121, 1150 64,
1827-----	31, 448, 855, 1237	1906-----	153, 154, 155, 156, 157, 162, 163, 215, 385, 388, 553, 590, 747, 748, 810, 852, 1016, 1028, 1054, 1071, 1097, 1151, 1152, 1190, 1191, 1193, 1235.
1829-----	422, 452, 453, 642, 900, 1019	1907-----	158, 456, 457, 593, 919, 1036, 1039, 1075, 1122, 1153, 1192, 1193, 1194, 1223
1830-----	32, 33, 494	1908-----	230, 593, 902, 1037, 1195, 1198 110,
1831-----	34, 35, 36, 37, 801, 856	1909-----	285, 301, 305, 337, 389, 443, 458, 459, 533, 534, 535, 536, 593, 779, 784, 821, 998, 1055, 1196, 1197, 1199, 1200, 1240.
1832-----	38, 39, 800	1910-----	124, 255, 286, 413, 414, 442, 460, 532, 537, 538, 539, 540, 541, 594, 749, 824, 923, 1201, 1202, 1241
1833-----	896, 897	1911-----	415, 416, 554, 594, 631, 813, 903, 1033, 1038, 1059 134,
1837-----	40, 41, 42, 43, 1248, 1249	1912-----	121, 170, 171, 221, 231, 287, 338, 467, 500, 542, 543, 544, 594, 764, 994, 995, 1056, 1058
1839-----	454	1913-----	128, 172, 232, 256, 257, 310, 339, 545, 594, 606, 980, 1029, 1061, 1062, 1072, 1123
1840-----	44, 45, 46, 196, 423		
1841-----	47,		
48, 49, 137, 198, 199, 201, 240, 302, 424, 478, 484, 495, 550, 651, 785, 826, 898, 1086, 1101, 1221, 1250.			
1842-----	50, 169, 496, 497, 854		
1843-----	197, 200, 202, 203, 204, 440, 786		
1844-----	551, 970		
1845-----	241, 351		
1846-----	51, 52, 352, 353, 354, 669		
1847-----	352, 354, 670, 671, 787, 788, 799, 1110		
1848-----	53		
1849-----	672, 790, 914		
1851-----	277, 314, 355, 441, 759, 791, 792		
1853-----	619		
1854-----	54, 144, 491, 567, 655, 921		
1855-----	447, 647, 989		
1856-----	356, 597, 1020, 1144		
1857-----	569		
1858-----	419, 568, 618		
1859-----	357, 568, 1126		
1860-----	242, 358, 648		
1861-----	360, 498, 1117, 1127		
1862-----	359, 360, 577, 833, 1127		
1863-----	361		
1864-----	1127, 1128		
1865-----	1127, 1129		
1866-----	283, 362, 1130, 1131, 1132, 1133, 1134		
1867-----	147, 283, 860, 1135		
1868-----	1136, 1137		
1869-----	55, 552, 796, 858, 859, 1138, 1139		
1870-----	858		
1871-----	795		
1872-----	139, 653, 679, 858		
1873-----	140, 860		
1874-----	858		
1876-----	812, 858		
1877-----	141, 861, 862, 863		
1878-----	211, 280, 680, 681, 805, 858, 1002		
1879-----	476, 831, 864, 865, 1001, 1002		
1880-----	481, 485, 486,		
492, 682, 710, 858, 866, 868, 930, 931, 1002, 1076			
1881-----	867, 923, 932, 933, 1078		
1882-----	217, 683, 684, 685, 1002, 1003, 1077		

	Citation no.	Citation no.
1914	122,	89,
	173, 233, 258, 296, 501, 502, 503, 594, 627, 699, 904, 978, 1050, 1063, 1064, 1065, 1066, 1092, 1093, 1094, 1203, 1204, 1205, 1211.	90, 91, 182, 183, 190, 192, 243, 252, 288, 316, 428, 475, 518, 560, 594, 610, 658, 811, 828, 906, 982, 1067, 1143, 1229, 1231, 1254, 1255.
1915	65,	92,
	66, 67, 68, 69, 70, 174, 222, 234, 259, 260, 261, 266, 267, 284, 299, 300, 340, 436, 437, 468, 469, 477, 505, 506, 558, 582, 594, 628, 700, 719, 720, 730, 731, 735, 738, 739, 817, 818, 819, 820, 832, 869, 981, 986, 1042, 1074, 1098, 1099, 1109, 1209, 1210.	93, 94, 95, 96, 166, 184, 193, 239, 244, 275, 289, 445, 561, 673, 726, 727, 736, 777, 778, 887, 888, 889, 1143, 1230.
1916	71,	97,
	72, 73, 74, 75, 76, 138, 175, 235, 263, 264, 265, 266, 267, 284, 299, 300, 340, 436, 437, 468, 469, 477, 505, 506, 558, 582, 594, 628, 700, 719, 720, 730, 731, 735, 738, 739, 817, 818, 819, 820, 832, 869, 981, 986, 1042, 1074, 1098, 1099, 1109, 1209, 1210.	164, 210, 245, 246, 290, 317, 318, 418, 519, 528, 595, 596, 659, 674, 803, 804, 890, 907, 1018, 1068, 1069, 1070.
1917	77,	98,
	136, 176, 177, 178, 208, 223, 236, 268, 269, 438, 470, 480, 507, 508, 547, 558, 594, 712, 721, 722, 752, 753, 754, 797, 802, 877, 909, 1011, 1041, 1094, 1140, 1232.	99, 100, 101, 102, 213, 276, 342, 520, 529, 562, 594, 636, 660, 728, 793, 1213, 1214.
1918	78,	103,
	159, 160, 209, 248, 249, 250, 431, 471, 549, 573, 594, 613, 633, 634, 701, 723, 728, 807, 808, 870, 878, 879, 910, 990, 1017, 1094.	165, 180, 185, 246, 253, 312, 350, 520, 521, 563, 594, 661, 662, 675, 975, 984, 999, 1096, 1215, 1234.
1919	79,	104,
	225, 226, 227, 237, 251, 270, 271, 272, 390, 425, 426, 445, 472, 509, 510, 527, 548, 574, 594, 678, 702, 708, 724, 758, 770, 772, 853, 880, 978, 986, 1094, 1103, 1104, 1236.	174, 179, 180, 246, 254, 343, 344, 391, 566, 609, 639, 767, 874, 894, 980.
1920	80,	105,
	81, 82, 83, 84, 85, 86, 87, 109, 112, 133, 187, 238, 273, 274, 315, 427, 445, 483, 511, 512, 575, 594, 598, 599, 600, 601, 605, 635, 651, 656, 657, 657a, 709, 734, 806, 822, 827, 829, 833, 881, 882, 883, 884, 905, 911, 924, 979, 983, 991, 998, 1094, 1095, 1105, 1112, 1124, 1141, 1253.	106, 118, 119, 120, 146, 212, 218, 228, 229, 254, 292, 293, 522, 565, 637, 638, 663, 664, 667, 676, 729, 755, 757, 872, 908, 989.
1921	88,	107, 126, 168,
	149, 150, 190, 191, 224, 304, 319, 341, 473, 474, 513, 514, 515, 516, 517, 594, 602, 725, 733, 755, 771, 798, 799, 885, 886, 912, 926, 927, 996, 1040, 1106, 1113, 1125, 1228.	180, 214, 523, 611, 757, 769, 873, 874, 892, 1142.
		108,
		180, 294, 295, 393, 757, 768, 894, 1034, 1140.
		186, 420, 429, 526, 581, 666, 797, 976, 1035, 1079
		148,



